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Nomenclature

| | | | |
|---------------------------|--|-------------|---|
| ALPHA, α | angle of rotor shaft from vertical, positive shaft tilt aft, deg | MB damp. | Moving-Block Analysis critical damping coefficient estimate, rotating system, % |
| A1S, B1S | coefficients in the representation of rotor blade cyclic pitch (fixed- system measurement), -A1S cos(ϕ - 10 deg) -B1S sin(ϕ - 10 deg), deg | MB freq. | Moving-Block Analysis fundamental rotating inplane bending frequency estimate, Hz |
| c | blade chord, ft | MB sigma | Moving-Block Analysis decay coefficient estimate, sec ⁻¹ |
| CLRH/S | ratio of rotor lift force coefficient to solidity, wind axis, positive up, lift/ $\rho S(\Omega R)^2$ | P | per rev |
| CMXH/S | ratio of rotor rolling moment coefficient to solidity, wind axis, positive right wing down, roll moment/ $\rho S(\Omega R)^2 R$ | POINT | point number |
| CMYH/S | ratio of rotor pitching moment coefficient to solidity, wind axis, positive nose up, pitch moment/ $\rho S(\Omega R)^2 R$ | R | rotor radius, ft |
| COLL | rotor collective pitch (fixed-system measurement), deg | RHO, ρ | air density, slug/ft ³ |
| CP/S | ratio of rotor power coefficient to solidity, rotor power/ $\rho S(\Omega R)^3$ | RPM | rotor revolution rate per minute |
| C _T / σ | ratio of rotor thrust coefficient to solidity, rotor thrust/ $\rho S(\Omega R)^2$ | RUN | run number |
| CXRH/S | ratio of rotor propulsive force coefficient to solidity, wind axis, positive forward, -drag/ $\rho S(\Omega R)^2$ | S | rotor reference area, $4cR$, ft ² ; rotor solidity ($4cR$)/(πR^2) |
| CYRH/S | ratio of rotor side force coefficient to solidity, wind axis, positive right, side/ $\rho S(\Omega R)^2$ | TA damp. | Transient Analysis critical damping coefficient estimate, rotating system, % |
| C ζ | support system damping coefficient, fixed system, lb-s/ft | TA freq. | Transient Analysis fundamental rotating inplane bending frequency estimate, Hz |
| | | TA sigma | Transient Analysis decay coefficient estimate, sec ⁻¹ |
| | | V | tunnel velocity, ft/sec |
| | | VKTS | tunnel velocity, knots |
| | | V/OR, μ | advance ratio, V/ ΩR |
| | | σ | decay coefficient, sec ⁻¹ ; rotor solidity, $S/\pi R^2$ |
| | | ω_r | rotor-blade fundamental inplane bending frequency, rad/sec |
| | | Ω | rotor rotational speed, rad/sec |

Aeroelastic Stability of a Full-Scale Hingeless Rotor

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Summary

A full-scale BO-105 hingeless rotor system was tested in the Ames 40- by 80-Foot Wind Tunnel on the rotor test apparatus. Rotor performance, blade and rotor hub loads, and aeroelastic stability as functions of rotor lift, tunnel velocity, and shaft angle were investigated. The primary objective of this test program was to create a data base for full-scale hingeless rotor performance, structural blade loads, and aeroelastic stability. A secondary objective was to investigate the ability to match flight test conditions in the wind tunnel. This data base can be used for the experimental and analytical studies of hingeless rotor systems over large variations in rotor thrust and tunnel velocity. Aeroelastic stability data and the corresponding rotor performance data and test conditions for tunnel velocities from hover to 140 knots and thrust coefficients (C_T/σ) from 0.0 to 0.10 are presented in this report. The rotor was found to be stable at all conditions tested.

Introduction

The primary objective of this test program was to create a data base for full-scale hingeless rotor performance, structural blade loads, and aeroelastic stability over a wide range of rotor thrusts and tunnel velocities. A secondary objective was to investigate the ability to match flight test measurements in the wind tunnel based on the results of a BO-105 flight test program conducted by the Deutsche Forschungsanstalt für Luft- und Raumfahrt e.V. (DLR), Braunschweig, Germany, under the Rotor Data Correlation Task of the U.S. Army/German Memorandum of Understanding on Cooperative Research in the Field of Helicopter Aeromechanics. This report presents the aeroelastic stability and the corresponding rotor performance data and test conditions for tunnel velocities from hover to 140 knots and thrust coefficients (C_T/σ) from 0.0 to 0.10. The complete set of performance and structural blade loads data for this test program are reported in reference 1.

This report documents the test program and presents the aeroelastic stability and rotor performance data for selected test conditions. Hover aeroelastic stability and rotor performance data are presented in Appendix A. Forward flight (minimized flapping trim) aeroelastic sta-

bility and rotor performance data are presented in Appendix B.

Test Hardware

The BO-105 helicopter rotor system is a four-bladed, soft inplane ($\omega_c < \Omega$) hingeless rotor with constant chord (0.886 ft), -8 deg linear twist, and a NACA 23012 cambered airfoil. The rotor radius is 16.11 ft; solidity (σ) is 0.07. The rotor hub has 2.5 deg of built-in coning and zero droop or sweep of the blade outboard of the pitch bearing. The general characteristics of the main rotor are summarized in table 1. Additional details about the rotor system are presented in reference 2.

The BO-105 hingeless rotor was installed on the rotor test apparatus (RTA) as shown in figure 1. The RTA is a special-purpose drive and support system for operating helicopter rotors in the 40- by 80- and 80- by 120-Foot Wind Tunnels. The RTA houses two electric drive motors, the hydraulic servo-actuators of the primary control system, and a dynamic control system capable of introducing dynamic perturbations to the nonrotating swashplate (collective and tilt) at frequencies up to 40 Hz. A five-component nonrotating balance is installed on the RTA. Rotor loads are measured at the balance center and then transferred to the hub moment center. This balance was designed and fabricated to measure both the steady and vibratory rotor normal, axial, and side forces, together with rotor pitch and roll moments for rotor thrust levels up to 22,000 lb. An instrumented flex-coupling measures rotor torque and residual normal force. The peak load capacities for the rotor balance are 22,000 lb of normal force, 4,400 lb of resultant inplane shear, and 57,800 ft-lb of resultant moment at the balance moment center. The maximum resultant hub moment is dependent upon the installed hub height above the balance moment center. The balance shares a common centerline with the rotor shaft. The rotor shaft has an in-line flex-coupling, which is instrumented to measure rotor torque up to a maximum of 36,000 ft-lb and the residual normal force up to a calibrated limit of 200 lb. The accuracy of the balance at the balance moment center, based on the calibration results for both the single and combined static loading sequences, is better than 0.5 percent of the full-scale load capacity.

Instrumentation for the wind tunnel test included the five-component rotor balance and instrumented flex-coupling, thirty-seven blade bending and torsional moment measurements (distributed among the four blades), one rotating pitch-link measurement, one blade pitch angle measurement (at the pitch bearing), three stationary control system measurements, and standard wind tunnel operating condition measurements. The blade instrumentation is shown schematically in figure 2. Identical measurements, on all four blades, at radial stations $r/R = 0.10$ (flap and chord), $r/R = 0.144$ (flap and chord), and $r/R = 0.40$ (torsion) were made in the wind tunnel test program. Instrumentation on blade number one was composed primarily of the distributed flap bending measurements, while blade number three instrumentation was composed primarily of the distributed chord bending and torsional moment measurements.

Not all of the measurements shown in figure 2 are presented in this report. This report presents only the aeroelastic stability data as determined from selected blade bending measurements. Tables 2 and 3 present the descriptions of the selected instrumentation, blade location (if appropriate), measurement units, and the positive sign conventions for the rotating system and fixed system measurements, respectively included in this report. Reference 1 contains the complete set of performance and structural blade loads data for this test program.

Wind Tunnel Test Procedures

The rotor was initially tracked and balanced in hover. Rotor tracking was verified to an airspeed of 140 knots for 1-g rotor thrust ($C_T/\sigma = 0.071$). All four blades tracked to within one-half of the blade thickness at a rotor azimuth of approximately 90 deg throughout the tunnel velocity sweep. No attempts were made to track the rotor at other azimuth positions because of the limitations of suitable viewing ports within the test section walls. There were also no adjustments made to the rotor blade trim tabs. Because of limitations in the location and the amount of balancing weight that could be added on this rotor system, the rotor was balanced to a once-per-revolution (1P) inplane shear level of approximately 90–95 lb as indicated by the rotor balance. This imbalance is largely a result of differences in the amount of instrumentation that is distributed among the four blades.

Test conditions in the wind tunnel for aeroelastic stability testing were obtained by establishing shaft angle, advance ratio (or tunnel velocity), and rotor thrust, and then adjusting cyclic inputs to achieve a minimized flapping condition. Minimized flapping trim was based on a flap bending measurement at $r/R = 0.144$ on the reference blade number one. Minimized flapping was accomplished

by adjusting the cyclic pitch inputs on the rotor control console until the 1P flapping was minimized on a display to the rotor operator.

Stability Testing Procedures

Transient decay time-histories from chordwise bending moment signals (stations $r/R = 0.104$ and 0.144) on each of the four blades were used to determine the inplane stability. The damping level was determined for the fundamental chordwise bending mode. After the desired wind tunnel and rotor trim conditions were established as discussed in the previous section, the dynamic control system was used to oscillate the rotor cyclic pitch at the rotor regressing inplane bending frequency (nutation type excitation). A chordwise bending moment signal was monitored, and the amplitude of the swashplate oscillation was increased until either an adequate signal at the forcing frequency was obtained in the blade chordwise bending moment, or until a load limit was reached at any of the instrumented blade stations. This excitation was then terminated shortly after the initiation of data acquisition on a data acquisition and analysis system. On-line stability determinations were made using a moving-block analysis method. The support system dynamic characteristics determined in a shake test performed prior to this test are presented in table 4.

Stability data acquisition included the chordwise bending moment signals at two spanwise stations ($r/R = 0.104$ and 0.144) on each blade and an excitation cut-off signal to aid in the data analysis. Data records were acquired for a duration of eight seconds and sampled at 128 samples per second. As a check on the repeatability of the data, stability measurements were repeated for a total of three records at each test condition, except for one set of hover data that had a total of four stability records at each test condition.

The majority of the data reduction was conducted off-line using two different data reduction techniques. The data reduction methods employed were based on the moving-block method (refs. 3 and 4) and a transient, nonlinear, least-squares curve-fit approach (ref. 5). In each analysis, the original eight seconds of data was truncated to retain only the decaying signal. The exact same decay signal was used in each analysis.

The moving-block method used in this analysis is based on the improved techniques proposed by Bousman and Winkler (ref. 4). To improve the resolution of the frequency spectrum of the transient decay signal calculated by the Discrete Fourier Transform (DFT), Goertzel's algorithm is employed to calculate the Fourier coefficients. After identification of the first chordwise mode from the frequency spectrum, the damping estimate

is calculated using a moving-block function that employs a recursive formula based on Hamming's local Fourier series solution for increased computational speed. To minimize leakage in the frequency spectrum associated with closely spaced modes, a Hanning window was applied in the calculation of the DFT.

The transient analysis method is based on the least-squares method developed by Wilcox and Crawford (ref. 5) for the reduction of free-oscillation data acquired in a wind tunnel test. This technique was adapted by the author to analyze multiple-mode transient decay records for rotor stability testing. Using analytical data, the transient analysis technique was superior in analyzing transient decays containing moderate to significant levels of periodic forced response from the rotor when compared with the widely-used moving-block method. In addition, the transient analysis was better in analyzing transient decays containing modes closely spaced in frequency and high levels of damping than the moving-block technique.

Hover Performance and Stability

Performance and aeroelastic stability data for hover conditions are presented in tabular form in Appendix A. Data are grouped in terms of thrust sweeps. The repeat stability measurements that were acquired at each test condition discussed previously, have the same run and point nomenclature for easy identification. The rotor control positions presented in Appendix A are based on the fixed-system actuator positions. Hover testing was conducted with the tunnel access doors open to minimize the influence of the facility on the data. Hovering rotor data were acquired at a forward shaft tilt of 10 deg. However, as the run progressed, a slight buildup of tunnel air velocity occurred within the tunnel circuit, resulting in a dynamic pressure indication in the wind tunnel instrumentation and nonzero values of tunnel velocity in the data base.

Representative aeroelastic stability data (frequency and decay coefficient) are presented graphically in figure 3 as a function of rotor lift coefficient CLRH/S. Figure 3(a) presents a comparison of the moving-block and transient analyses regressing lag frequency estimates for the most inboard radial station ($r/R = 0.104$) on Blade 1 as a function of rotor lift. The scatter in the frequency estimates between repeat points, as well as, between the two data reduction analyses is less than 0.1 Hz. A comparison of the corresponding decay coefficient estimates as a function of rotor lift is shown in figure 3(b). The scatter in the decay coefficient data increases as a function of rotor lift. This scatter is believed to be largely due to recirculation in the test section that increases with increasing rotor lift. The results shown in figure 3(b) are consistent with the stability measurements made with the same rotor system

(ref. 6) on the RTA in 1983. Differences between the two tests, other than the overall scope of each test program, include the addition of a rotor balance on the RTA and the use of a different strut and strut tip configuration in the wind tunnel. The scatter in the moving-block decay coefficient estimates were, in general, greater than those from the transient analysis method.

A comparison of the transient analysis decay coefficient estimates as a function of rotor lift for all four blades for $r/R = 0.104$ is shown in figure 3(c). A similar comparison, although not presented, can be found with the decay coefficient estimates from the moving-block analysis for all four blades.

For all hover conditions tested, the rotor was found to be stable.

Forward Flight Performance and Stability

Performance and aeroelastic stability data for forward flight conditions with minimized flapping trim are presented in tabular form in Appendix B. Data are grouped in terms of shaft angles-of-attack (α) and increasing tunnel velocity. As in Appendix A, the repeat stability measurements that were acquired at each test condition have the same run and point nomenclature for easy identification. The rotor control positions presented in Appendix B are based on the fixed-system actuator positions. No wall corrections were applied to the rotor performance data in this Appendix.

Rotor Thrust Sweeps

Representative aeroelastic stability data (frequency and decay coefficient) are shown in figures 4–11 as a function of rotor lift coefficient CLRH/S at discrete tunnel speeds from 20 to 140 knots. The data presented in figures 4–11 are for an angle-of-attack (α) of -5 deg.

Figure 4 presents the frequency and decay coefficient data as a function of rotor lift coefficient at a tunnel speed of 20 knots. Figure 4(a) presents a comparison of the moving-block and transient analyses regressing lag frequency estimates for $r/R = 0.104$ on Blade 1 as a function of rotor lift. Scatter in the frequency estimates between repeat data points and between the two different data reduction techniques has been reduced with the introduction of forward speed when compared to figure 3(a). A comparison of the corresponding decay coefficient estimates as a function of rotor lift is shown in figure 4(b). With the introduction of forward speed, the scatter in the decay coefficient estimates between repeat points and between the two different data reduction techniques has also reduced when compared to figure 3(b). Figure 4(c) presents a comparison of the transient analysis

decay coefficient estimates as a function of rotor lift for all four blades at $r/R = 0.104$. The variation in the decay coefficient estimates between blades as shown in figure 4(c) is very similar to that shown in figure 3(c).

The frequency and decay coefficient data as a function of rotor lift coefficient at a tunnel speed of 30 knots are shown in figure 5. A comparison of the moving-block and transient analyses regressing lag frequency estimates for $r/R = 0.104$ on Blade 1 as a function of rotor lift is presented in figure 5(a). Except for the frequency data points around 4.7 Hz at rotor lift coefficients of 0.068, the scatter in the frequency estimates is small. The data points near 4.7 Hz at a rotor lift coefficient of 0.068, were acquired during a different test run than the other data shown in this figure. This may be an indication of the repeatability between test runs, or that the rotor was trimmed differently between these two runs as the nutation inputs to the rotor were essentially identical. Figure 5(b) presents a comparison of the corresponding decay coefficient estimates as a function of rotor lift. Except at the highest rotor lift coefficients, the scatter is relatively small for either analysis. The increase in scatter for the moving-block method at the highest rotor lift coefficients is largely due to difficulties in analyzing highly damped transient decays with this method. Despite the differences in frequency at rotor lift coefficients of 0.068 as discussed in figure 5(a), the corresponding decay coefficients between the two test runs are very similar. Figure 5(c) presents a comparison of the transient analysis decay coefficient estimates as a function of rotor lift for all four blades at $r/R = 0.104$. The variation in decay coefficient estimates with rotor thrust for all four blades are consistent with that shown previously.

Figure 6 presents the frequency and decay coefficient data as a function of rotor lift coefficient at a tunnel speed of 45 knots. Figure 6(a) presents a comparison of the moving-block and transient analyses regressing lag frequency estimates for $r/R = 0.104$ on Blade 1 as a function of rotor lift. A comparison of the corresponding decay coefficient estimates as a function of rotor lift is shown in figure 6(b). Figure 6(c) presents a comparison of the transient analysis decay coefficient estimates as a function of rotor lift for all four blades at $r/R = 0.104$.

The frequency and decay coefficient data as a function of rotor lift coefficient at a tunnel speed of 60 knots are shown in figure 7. A comparison of the moving-block and transient analyses regressing lag frequency estimates for $r/R = 0.104$ on Blade 1 as a function of rotor lift is presented in figure 7(a). Except for the frequency data points around 4.74 Hz at rotor lift coefficients of 0.069, the scatter in the frequency estimates is small. These inconsistent data points shown were acquired during a different test run than the other data shown in this figure. These

inconsistent data points were acquired during the same test run as those shown in figure 5. Figure 7(b) presents a comparison of the corresponding decay coefficient estimates as a function of rotor lift. Except at the highest rotor lift coefficients, the scatter is relatively small. A comparison of the transient analysis decay coefficient estimates as a function of rotor lift for all four blades at $r/R = 0.104$ is presented in figure 7(c).

A comparison of the frequency and decay coefficient data as a function of rotor lift coefficient at a tunnel speed of 75 knots is presented in figure 8. Figure 8(a) presents a comparison of the moving-block and transient analyses regressing lag frequency estimates for $r/R = 0.104$ on Blade 1 as a function of rotor lift. A comparison of the corresponding decay coefficient estimates as a function of rotor lift is shown in figure 8(b). Figure 8(c) presents a comparison of the transient analysis decay coefficient estimates as a function of rotor lift for all four blades at $r/R = 0.104$.

Figure 9 presents the frequency and decay coefficient data as a function of rotor lift coefficient at a tunnel speed of 90 knots. Figure 9(a) presents a comparison of the moving-block and transient analyses regressing lag frequency estimates for $r/R = 0.104$ on Blade 1 as a function of rotor lift. Except for the frequency data points around 4.73 Hz at rotor lift coefficients of 0.068, the scatter in the frequency estimates is small. As in figures 5(a) and 7(a), these inconsistent data points shown were acquired during a different test run than the other data shown in this figure. These inconsistent data points were acquired during the same test run as those shown in figures 5 and 7.

Figure 9(b) presents a comparison of the corresponding decay coefficient estimates as a function of rotor lift. The largest scatter is seen at rotor lift coefficients of 0.068 where the data inconsistencies between two different test runs were identified and discussed previously. Figure 9(c) presents a comparison of the transient analysis decay coefficient estimates as a function of rotor lift for all four blades at $r/R = 0.104$. As was shown in figure 9(b), the scatter is largest at rotor lift coefficients of 0.068 for all four blades.

Figure 10 presents the frequency and decay coefficient data as a function of rotor lift coefficient at a tunnel speed of 105 knots. Figure 10(a) presents a comparison of the moving-block and transient analyses regressing lag frequency estimates for $r/R = 0.104$ on Blade 1 as a function of rotor lift. A comparison of the corresponding decay coefficient estimates as a function of rotor lift is shown in figure 10(b). Figure 10(c) presents a comparison of the transient analysis decay coefficient estimates as a function of rotor lift for all four blades at $r/R = 0.104$.

The frequency and decay coefficient data as a function of rotor lift coefficient at a tunnel speed of 140 knots are

shown in figure 11. A comparison of the moving-block and transient analyses regressing lag frequency estimates for $r/R = 0.104$ on Blade 1 as a function of rotor lift is presented in figure 11(a). The scatter in the frequency estimates at the higher rotor lift conditions is most pronounced at this speed despite the small differences in frequency of less than 0.1 Hz between repeat data points. Figure 11(b) presents a comparison of the corresponding decay coefficient estimates as a function of rotor lift. A comparison of the transient analysis decay coefficient estimates as a function of rotor lift for all four blades at $r/R = 0.104$ is presented in figure 11(c). The difference in the decay coefficient estimates between the four different blades is the greatest at this tunnel speed, especially at the higher rotor lift coefficients.

Speed Sweeps at Nominal Thrust

Representative aeroelastic stability data (frequency and decay coefficient) are presented graphically in figures 12–15 as a function of advance ratio (μ) for nominal 1-g thrust ($CLRHS \approx 0.069$) conditions. The data presented in figures 12–15 are for an angles-of-attack (α) of 0, -5, and -10 deg.

Figure 12 presents the frequency and decay coefficient data as a function of advance ratio for nominal 1-g thrust conditions at a shaft angle-of-attack of 0 deg. A comparison of the moving-block and transient analyses regressing lag frequency estimates for $r/R = 0.104$ on Blade 1 as a function of advance ratio is presented in figure 12(a). Figure 12(b) presents a comparison of the corresponding decay coefficient estimates as a function of advance ratio. A comparison of the transient analysis decay coefficient estimates as a function of advance ratio for all four blades at $r/R = 0.104$ is presented in figure 12(c).

The frequency and decay coefficient data as a function of advance ratio for nominal 1-g thrust conditions at a shaft angle-of-attack of -5 deg are shown in figure 13. Figure 13(a) presents a comparison of the moving-block and transient analyses regressing lag frequency estimates for $r/R = 0.104$ on Blade 1 as a function of advance ratio. The frequency estimate differences between test runs discussed previously and shown in figures 5, 7, and 9 are again evident in figure 13(a). Figure 13(b) presents a comparison of the corresponding decay coefficient estimates as a function of advance ratio. Except at the higher advance ratios and at the advance ratios corresponding to the differences in frequency estimates shown in the previous figure, the scatter is relatively small between the two analyses and between the repeat points. A comparison of the transient analysis decay coefficient estimates as a

function of advance ratio for all four blades at $r/R = 0.104$ is presented in figure 13(c). The scatter in decay coefficient estimates between the four blades is the greatest at the higher advance ratios. This increase in scatter is believed to be largely due to the sensitivity of this rotor system to unsteady tunnel flow conditions which were encountered at the higher advance ratios.

A comparison of frequency and decay coefficient data as a function of advance ratio for nominal 1-g thrust conditions at a shaft angle-of-attack of -10 deg are shown in figure 14. Figure 14(a) presents a comparison of the moving-block and transient analyses regressing lag frequency estimates for $r/R = 0.104$ on Blade 1 as a function of advance ratio. A comparison of the corresponding decay coefficient estimates as a function of advance ratio is shown in figure 14(b). Figure 14(c) presents a comparison of the transient analysis decay coefficient estimates as a function of advance ratio for all four blades at $r/R = 0.104$. As in figure 13(c), the scatter in decay coefficient estimates between the four blades is the greatest at the higher advance ratios.

Figure 15 presents a comparison of decay coefficient estimates for each analysis as a function of advance ratio (μ) and shaft angle-of-attack (α) for nominal 1-g thrust ($CLRHS \approx 0.069$) conditions. The decay coefficient estimates shown in figure 15 are for $r/R = 0.104$ on Blade 1. Figure 15(a) presents a comparison of decay coefficient estimates from the moving-block analysis as a function of advance ratio for the three discrete angles-of-attack tested. The corresponding decay coefficient estimates from the transient analysis are shown in figure 15(b). Distinct trends in decay coefficient estimates can be seen as a function of advance ratio for each of the three shaft angles-of-attack.

For all forward flight conditions tested, the rotor was found to be stable.

Concluding Remarks

A full-scale BO-105 hingeless rotor system was tested in the Ames 40- by 80-Foot Wind Tunnel on the rotor test apparatus. Rotor performance, rotor loads, and aeroelastic stability as functions of rotor lift, tunnel velocity, and shaft angle were investigated. Aeroelastic stability characteristics of the rotor blade's fundamental inplane bending mode were investigated in both hover and forward flight. Comparison of the results for two different data reduction techniques were presented. The rotor was stable at all conditions tested.

References

1. Peterson, R. L.: Full-Scale Hingeless Rotor Performance and Loads. NASA TM-110356, June 1995.
2. Staley, J. A.: Validation of Rotorcraft Flight Simulation Program through Correlation with Flight Data for Soft In-Plane Hingeless Rotors. USAAMRDL TR-75-50, Jan. 1976.
3. Hammond, C. E.; and Doggett, R.: Demonstration of Subcritical Damping by Moving Block/ Randomdec Applications. NASA SP-415, 1976, pp. 59-76.
4. Bousman, W.; and Winkler, D.: Application of the Moving Block Analysis. Proceedings of the AIAA/ASME/ASCE/AHS 22nd Structures, Structural Dynamics and Materials Conference, Atlanta, Ga., Apr. 1981.
5. Wilcox, P.; and Crawford, W. A.: Least Squares Method for the Reduction of Free Oscillation Data. NASA TN D-4503, June 1968.
6. Peterson, R. L.; and Warmbrodt, W.: Hover Test of a Full-Scale Hingeless Helicopter Rotor: Aeroelastic Stability, Performance, and Loads Data. NASA TM-85892, Jan. 1984.

Table 1. General characteristics of the BO-105 main rotor

| Type | Hingeless |
|---------------------------------------|------------|
| Radius (ft) | 16.11 |
| Number of blades | 4 |
| Blade chord (ft) | 0.886 |
| Linear blade twist (deg) | -8 |
| Precone (deg) | 2.5 |
| Solidity, σ | 0.07 |
| Reference area, S (ft^2) | 57.1 |
| Nominal rotor speed (rpm) | 425 |
| Nominal tip speed (ft/sec) | 717 |
| Airfoil section | NACA 23012 |

Table 2. Rotating system measurements

| Measurement | Blade number | Location (r/R) | Units | Sign convention |
|---------------|--------------|----------------|--------|----------------------|
| Chord bending | 1,2,3,4 | 0.104 | in.-lb | Leading edge tension |
| Chord bending | 1,2,3,4 | 0.144 | in.-lb | Leading edge tension |

Table 3. Fixed system measurements

| Measurement | Location | Units | Sign convention |
|-------------|---------------|-------|--------------------|
| Lift | Rotor balance | lb | Up |
| Drag | Rotor balance | lb | Aft |
| Side | Rotor balance | lb | Right |
| Pitch | Rotor balance | ft-lb | Nose up |
| Roll | Rotor balance | ft-lb | Right-wing down |
| Yaw | Rotor balance | ft-lb | Right-wing forward |

Table 4. Support System Dynamic Characteristics for BO-105 Wind Tunnel Test

| Direction of excitation | Mode | ω , Hz | C_ζ , lb-s/ft |
|-------------------------|---------|---------------|---------------------|
| Longitudinal | Balance | 2.06 | 7,817 |
| | Strut | 3.84 | 2,594 |
| Lateral | Balance | 2.46 | 2,969 |
| | Strut | 4.28 | 3,337 |

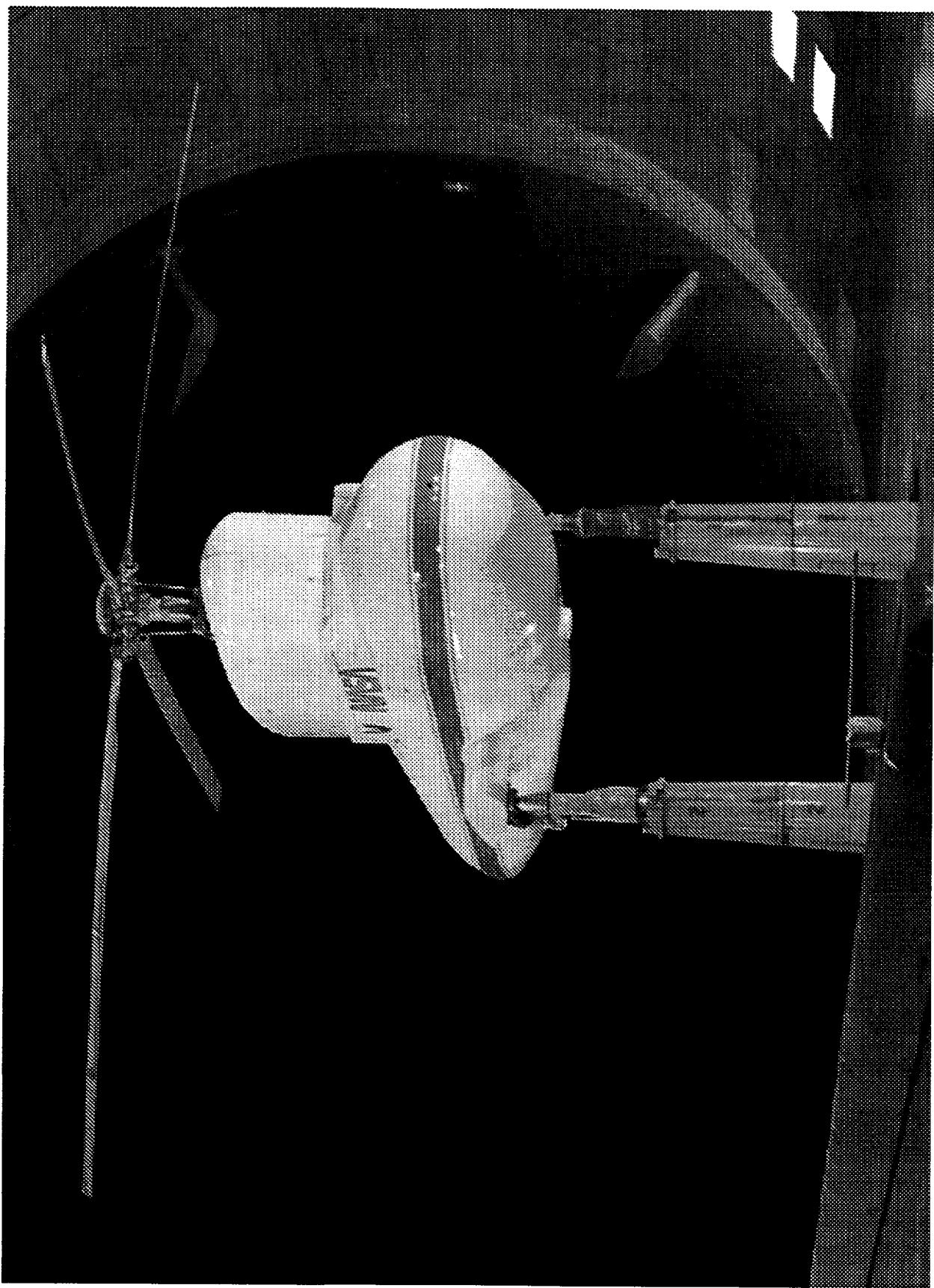


Figure 1. BO-105 rotor system on the Ames Rotor Test Apparatus (RTA) in the 40- by 80-Foot Wind Tunnel Test Section.

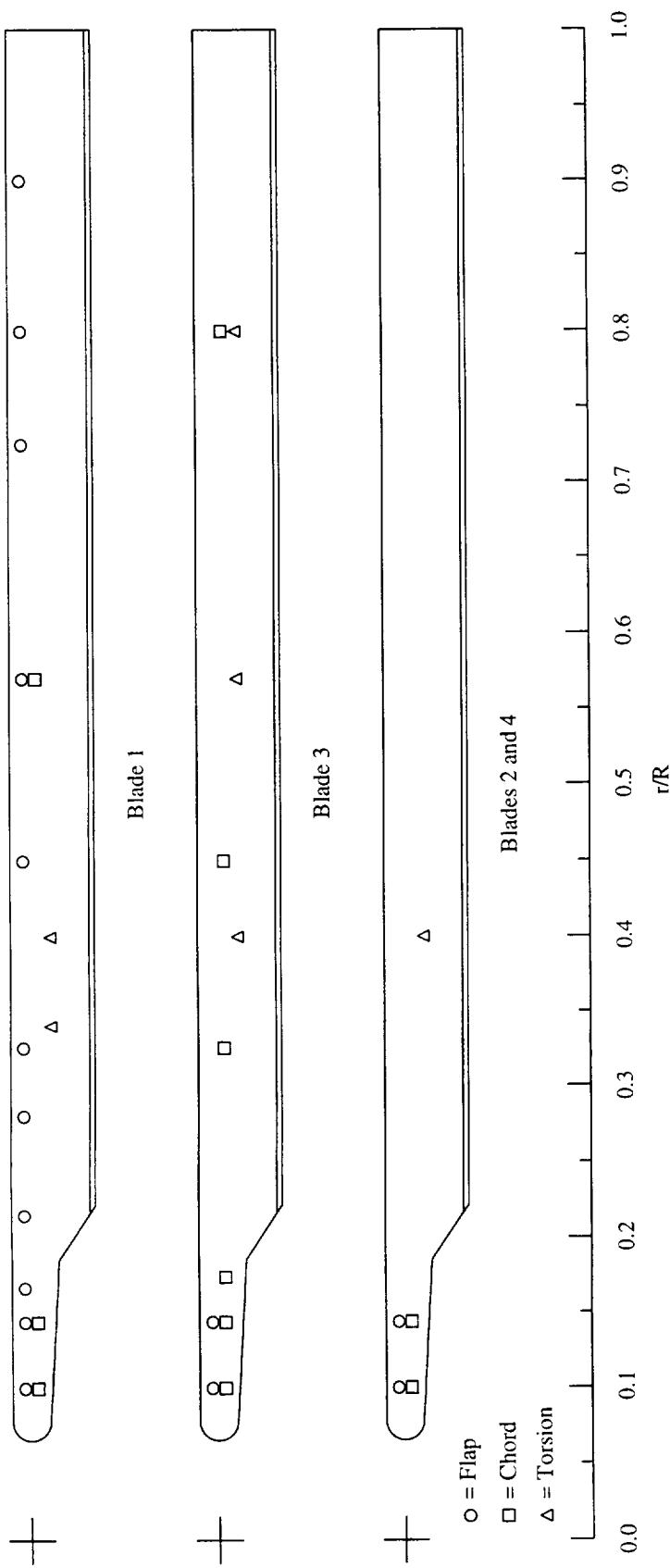


Figure 2. Radial locations of flap, chord, and torsion instrumentation for the wind tunnel test program.

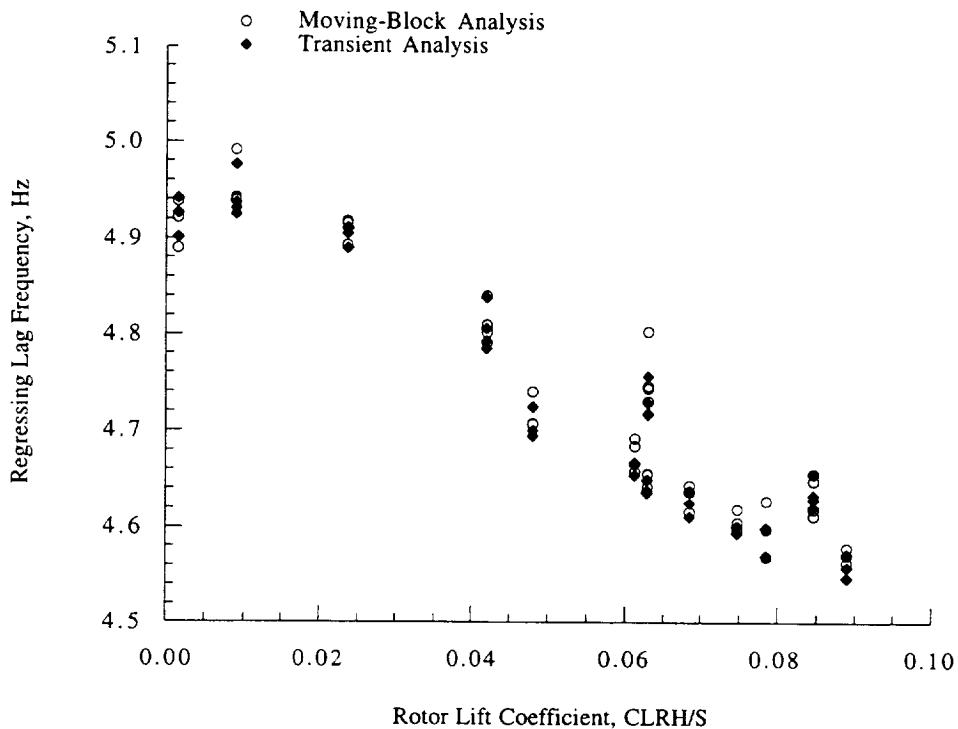


Figure 3(a). Comparison of Moving-Block and Transient Analyses regressing lag frequency estimates as a function of rotor lift, hover, $r/R = 0.104$ (Blade 1).

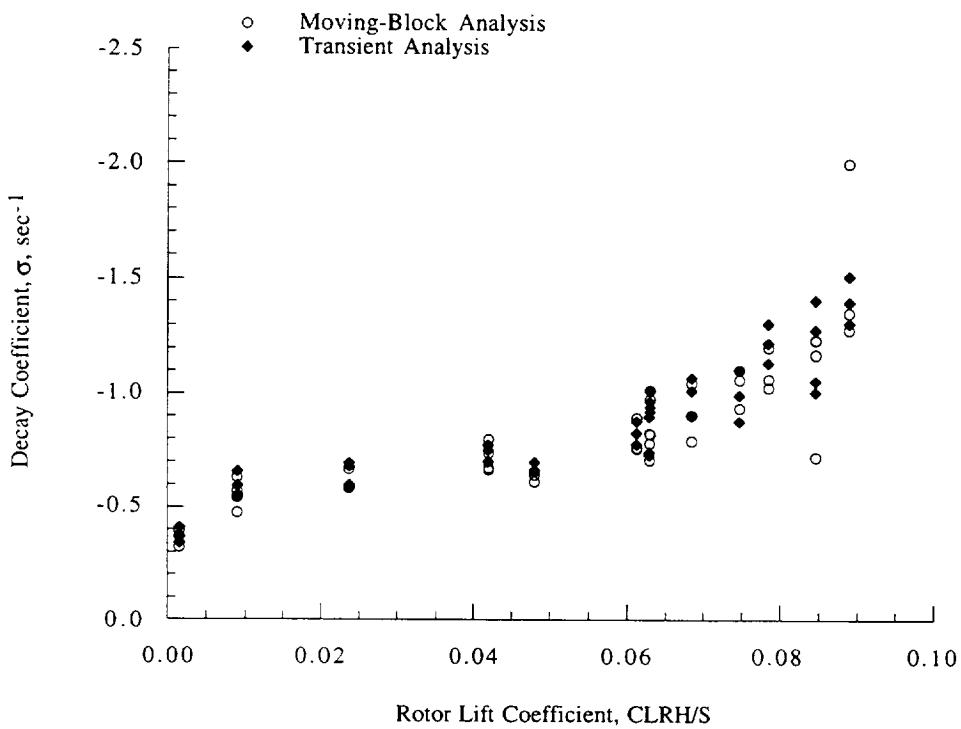


Figure 3(b). Comparison of Moving-Block and Transient Analyses decay coefficient (σ, sec^{-1}) estimates as a function of rotor lift, hover, $r/R = 0.104$ (Blade 1).

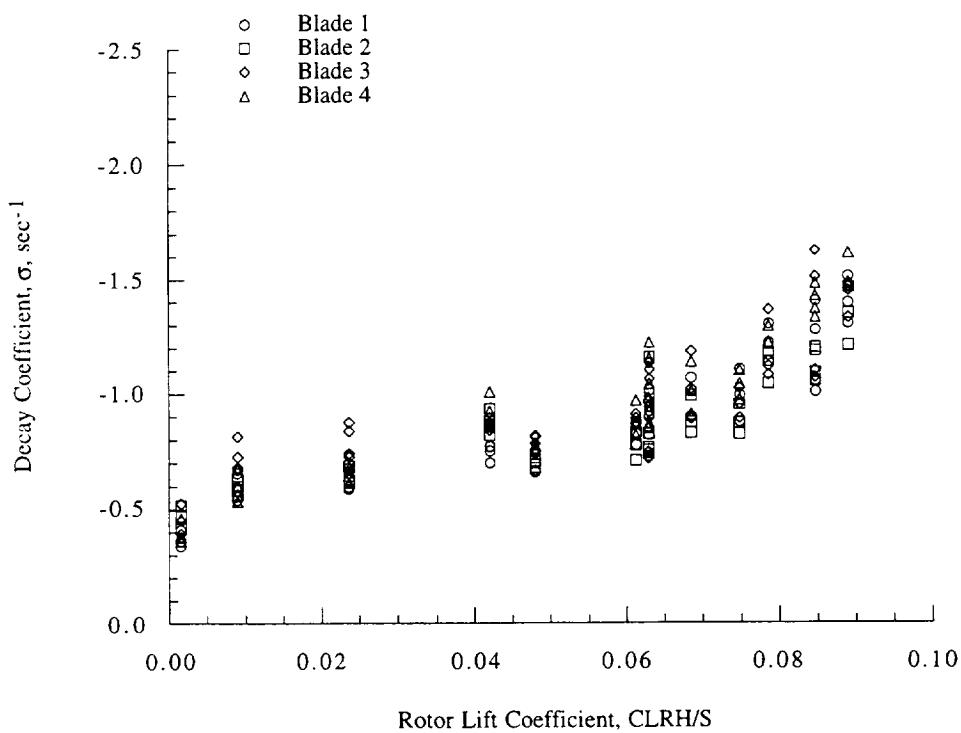


Figure 3(c). Comparison of decay coefficient (σ , sec^{-1}) estimates for each blade as a function of rotor lift, hover, $r/R = 0.104$, Transient Analysis.

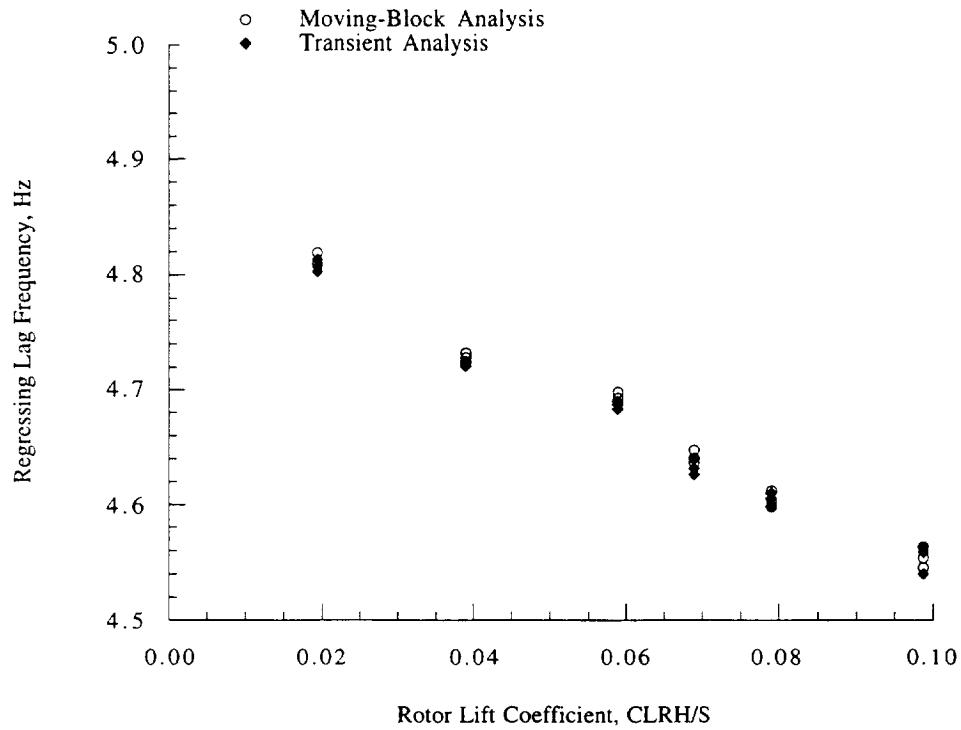


Figure 4(a). Comparison of Moving-Block and Transient Analyses regressing lag frequency estimates as a function of rotor lift, 20 knots, $\alpha = -5$ deg, $r/R = 0.104$ (Blade 1).

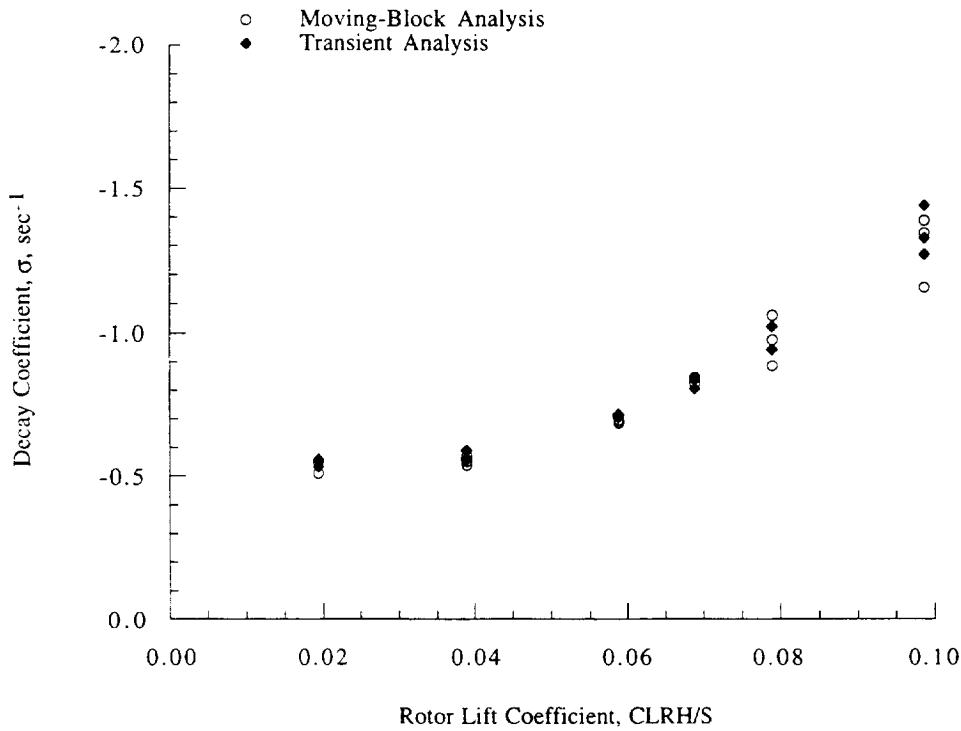


Figure 4(b). Comparison of Moving-Block and Transient Analyses decay coefficient (σ , sec⁻¹) estimates as a function of rotor lift, 20 knots, $\alpha = -5$ deg, $r/R = 0.104$ (Blade 1).

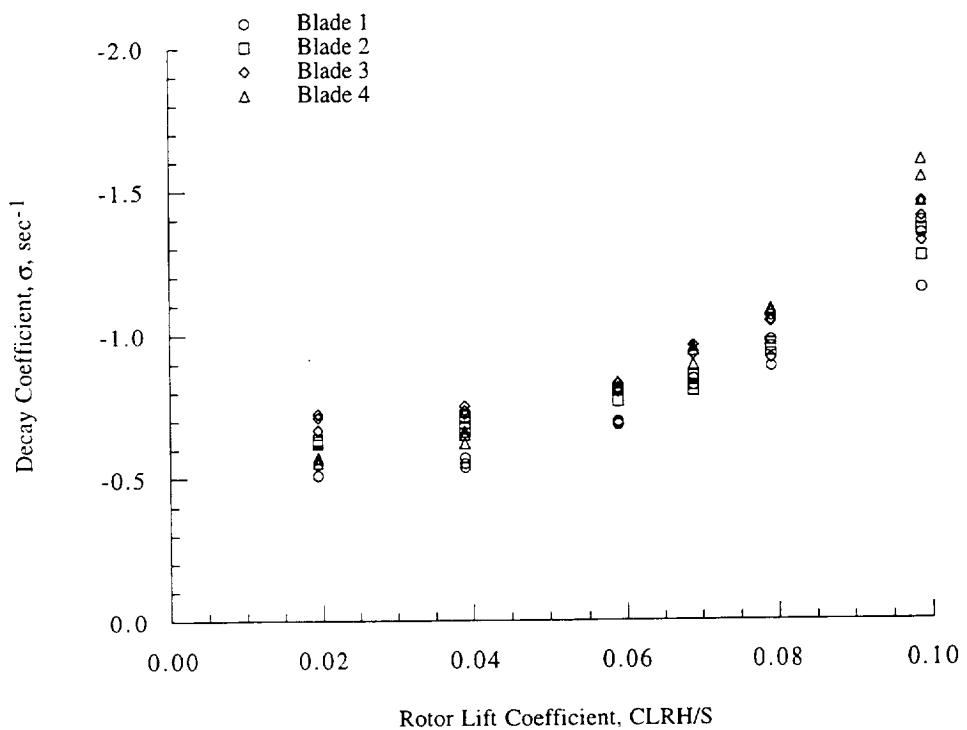


Figure 4(c). Comparison of decay coefficient (σ , sec^{-1}) estimates for each blade as a function of rotor lift, 20 knots, $\alpha = -5$ deg, $r/R = 0.104$, Transient Analysis.

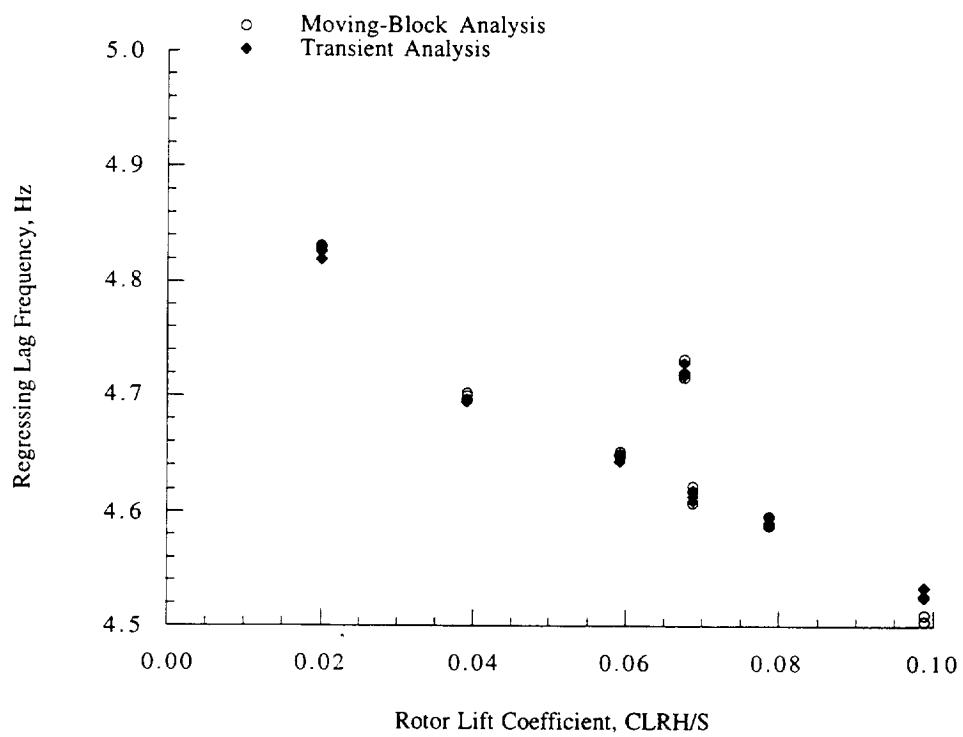


Figure 5(a). Comparison of Moving-Block and Transient Analyses regressing lag frequency estimates as a function of rotor lift, 30 knots, $\alpha = -5$ deg, $r/R = 0.104$ (Blade 1).

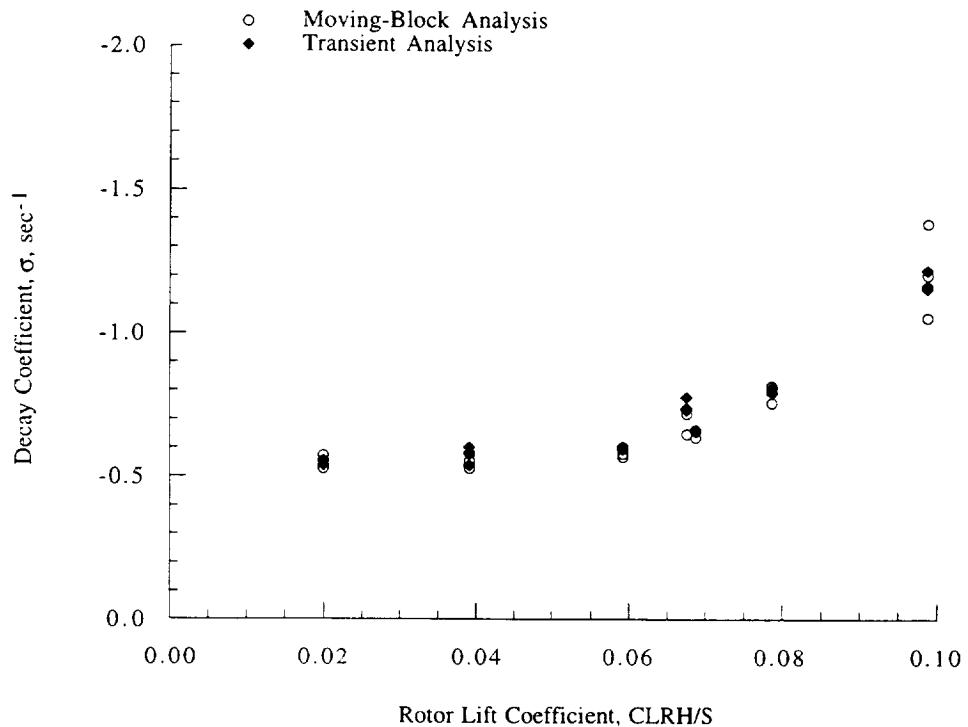


Figure 5(b). Comparison of Moving-Block and Transient Analyses decay coefficient (σ , sec $^{-1}$) estimates as a function of rotor lift, 30 knots, $\alpha = -5$ deg, $r/R = 0.104$ (Blade 1).

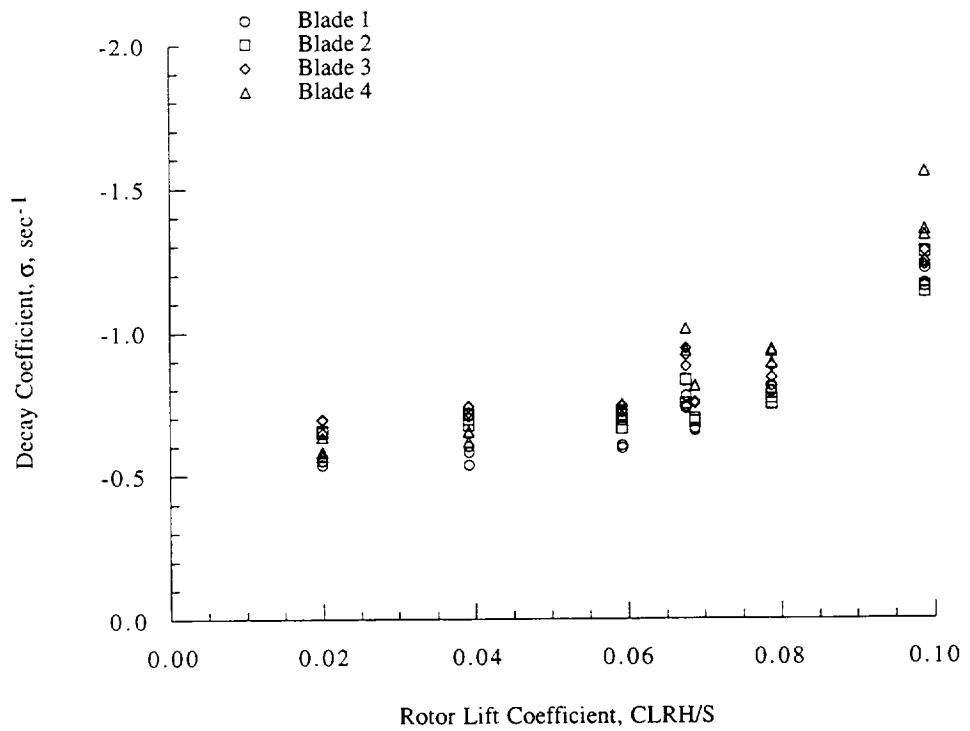


Figure 5(c). Comparison of decay coefficient (σ , sec^{-1}) estimates for each blade as a function of rotor lift, 30 knots, $\alpha = -5$ deg, $r/R = 0.104$, Transient Analysis.

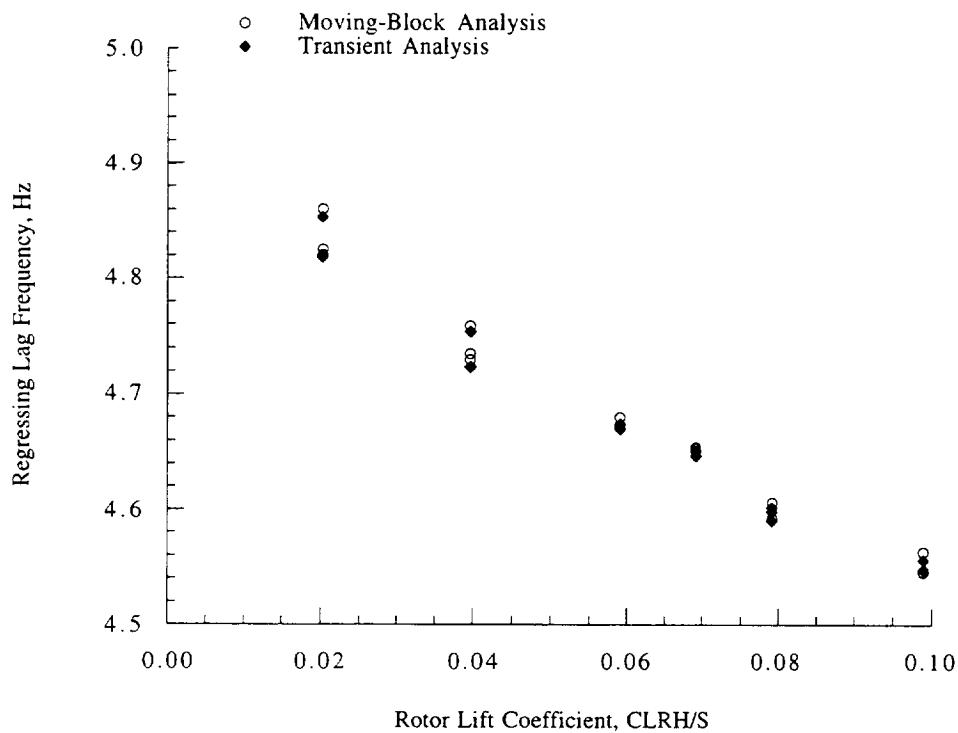


Figure 6(a). Comparison of Moving-Block and Transient Analyses regressing lag frequency estimates as a function of rotor lift, 45 knots, $\alpha = -5$ deg, $r/R = 0.104$ (Blade 1).

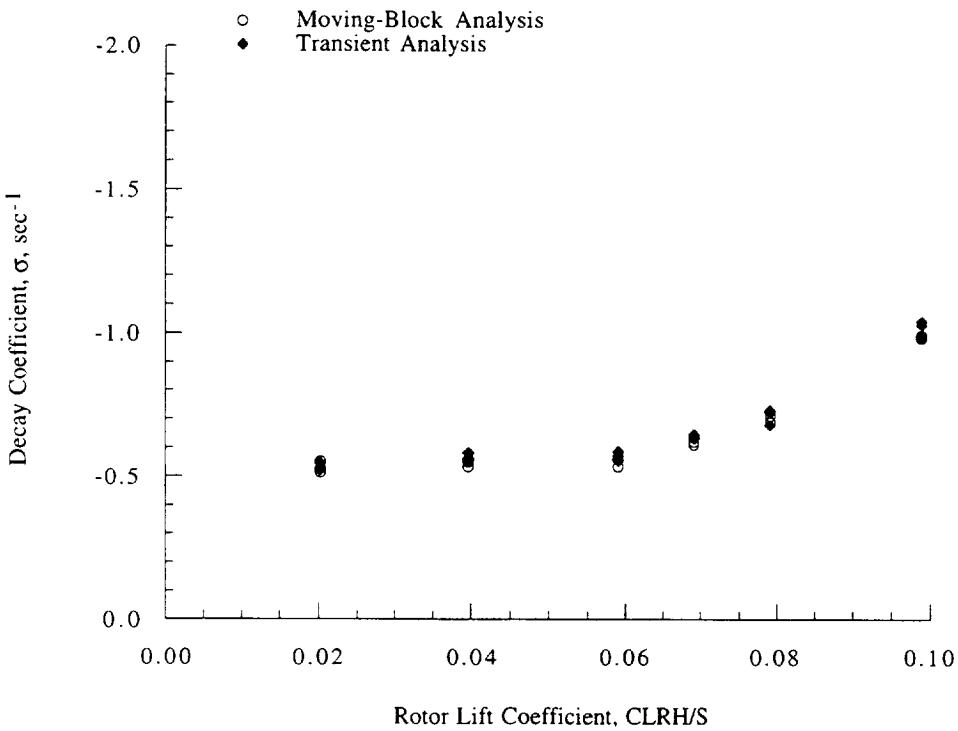


Figure 6(b). Comparison of Moving-Block and Transient Analyses decay coefficient (σ , sec $^{-1}$) estimates as a function of rotor lift, 45 knots, $\alpha = -5$ deg, $r/R = 0.104$ (Blade 1).

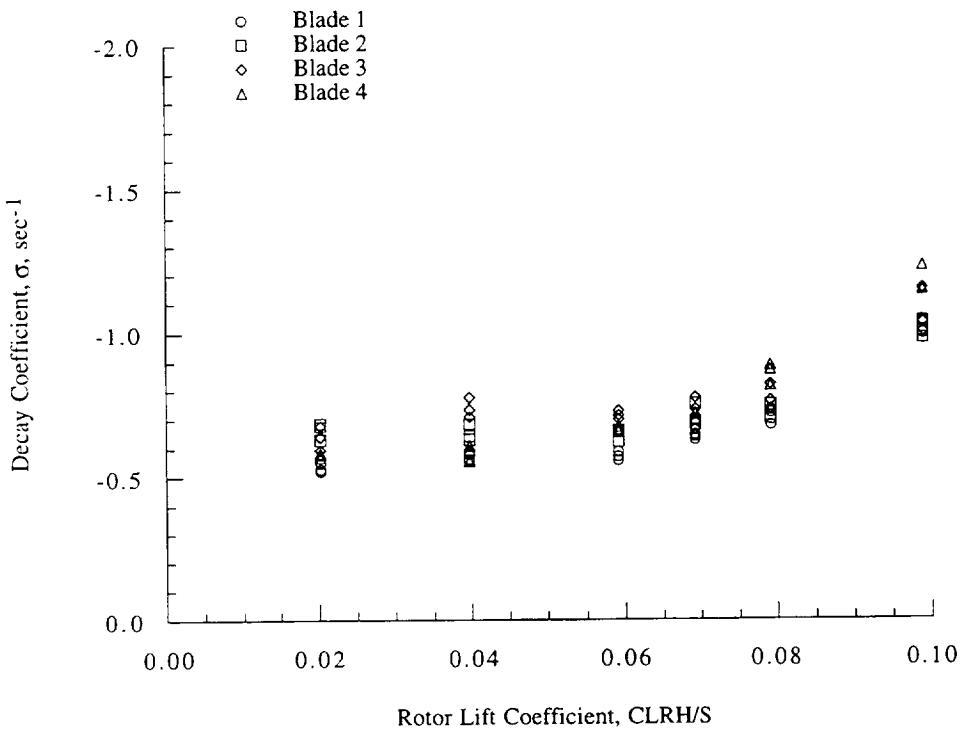


Figure 6(c). Comparison of decay coefficient (σ , sec^{-1}) estimates for each blade as a function of rotor lift, 45 knots, $\alpha = -5$ deg, $r/R = 0.104$, Transient Analysis.

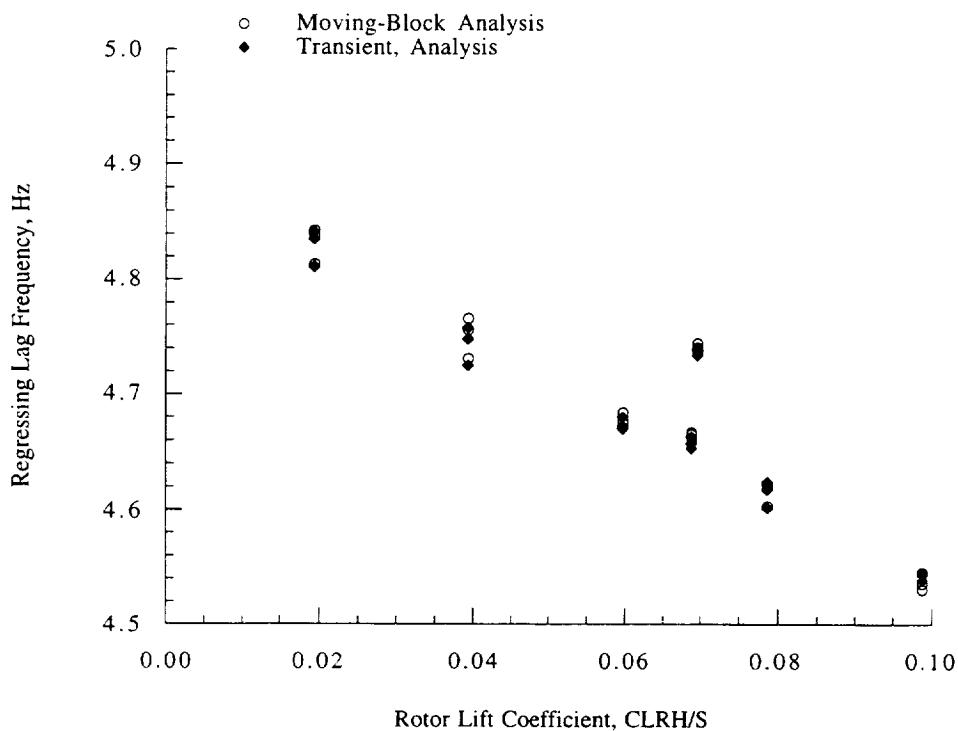


Figure 7(a). Comparison of Moving-Block and Transient Analyses regressing lag frequency estimates as a function of rotor lift, 60 knots, $\alpha = -5$ deg, $r/R = 0.104$ (Blade 1).

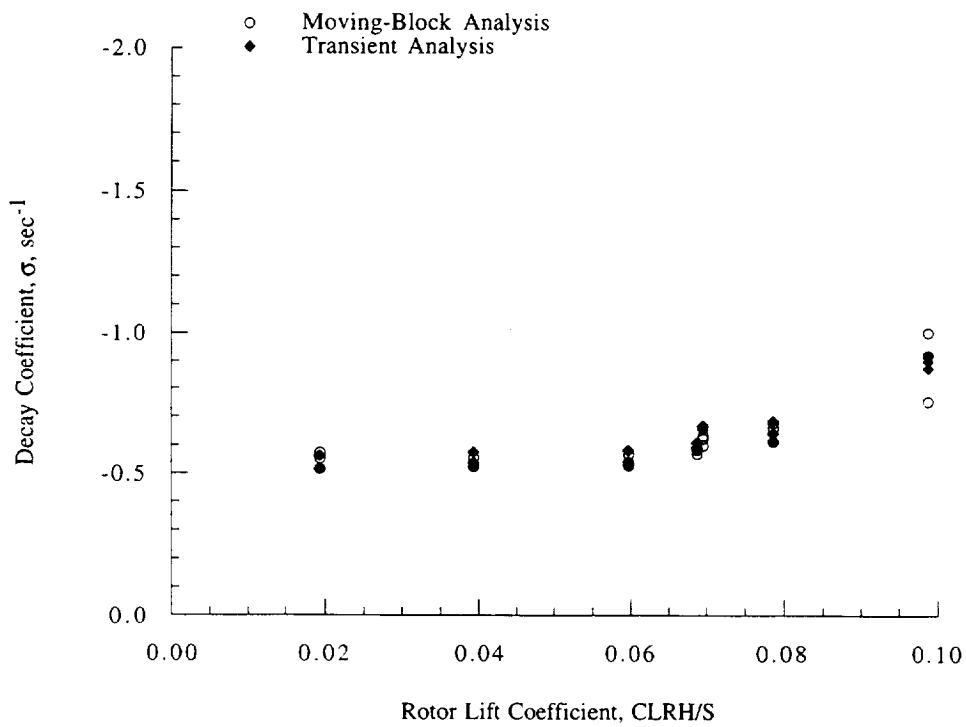


Figure 7(b). Comparison of Moving-Block and Transient Analyses decay coefficient (σ , sec^{-1}) estimates as a function of rotor lift, 60 knots, $\alpha = -5$ deg, $r/R = 0.104$ (Blade 1).

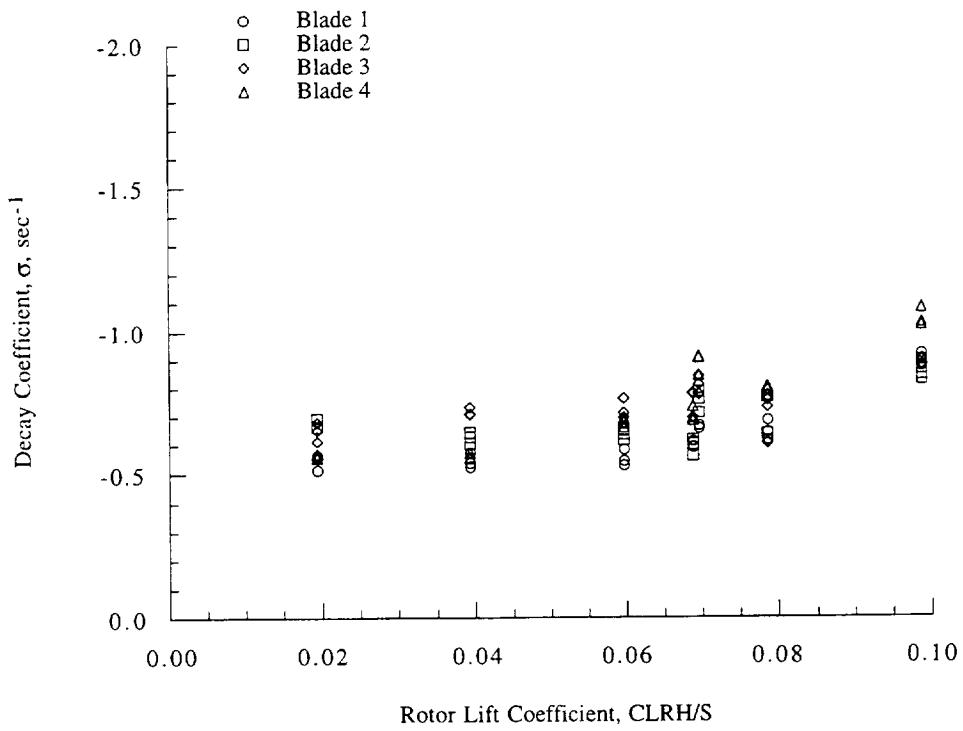


Figure 7(c). Comparison of decay coefficient (σ , sec^{-1}) estimates for each blade as a function of rotor lift, 60 knots, $\alpha = -5$ deg, $r/R = 0.104$, Transient Analysis.

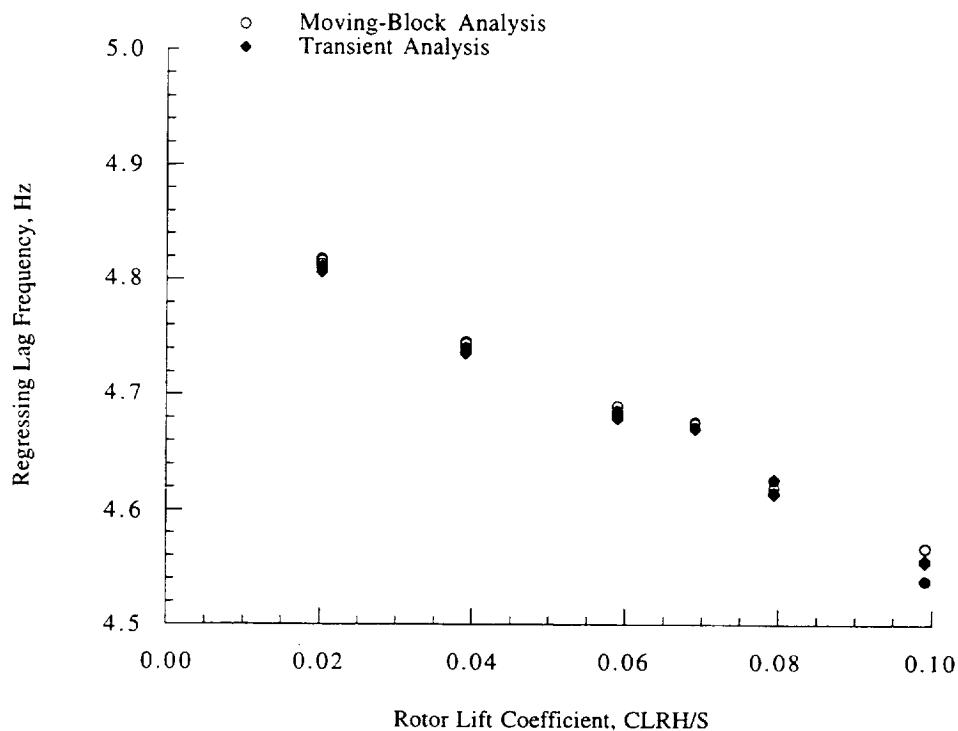


Figure 8(a). Comparison of Moving-Block and Transient Analyses regressing lag frequency estimates as a function of rotor lift, 75 knots, $\alpha = -5$ deg, $r/R = 0.104$ (Blade 1).

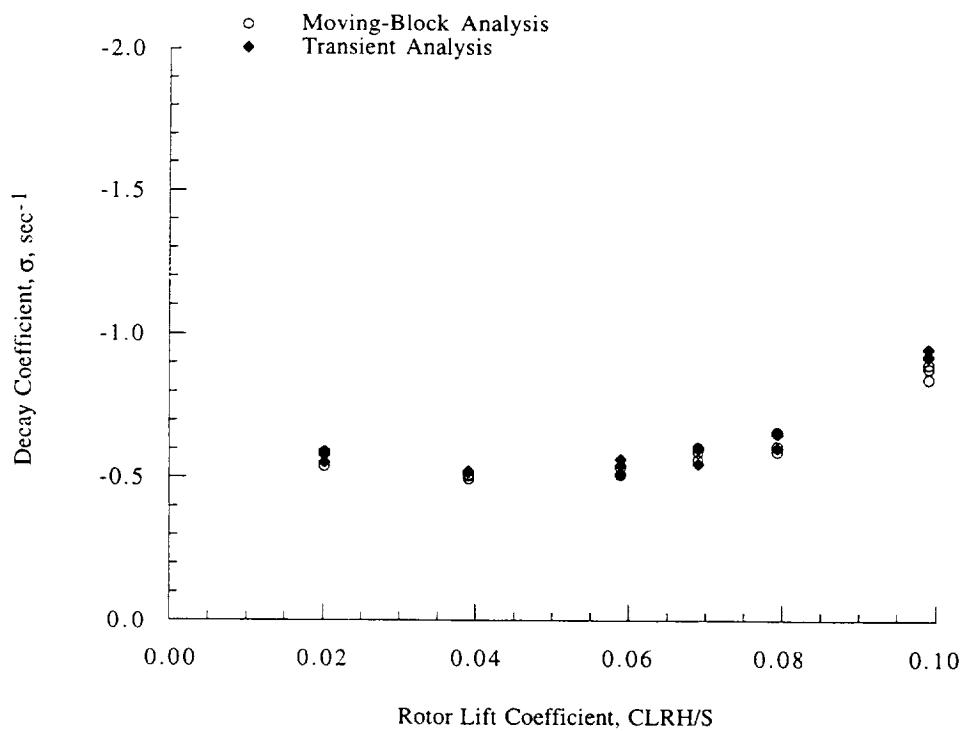


Figure 8(b). Comparison of Moving-Block and Transient Analyses decay coefficient (σ, sec^{-1}) estimates as a function of rotor lift, 75 knots, $\alpha = -5$ deg, $r/R = 0.104$ (Blade 1).

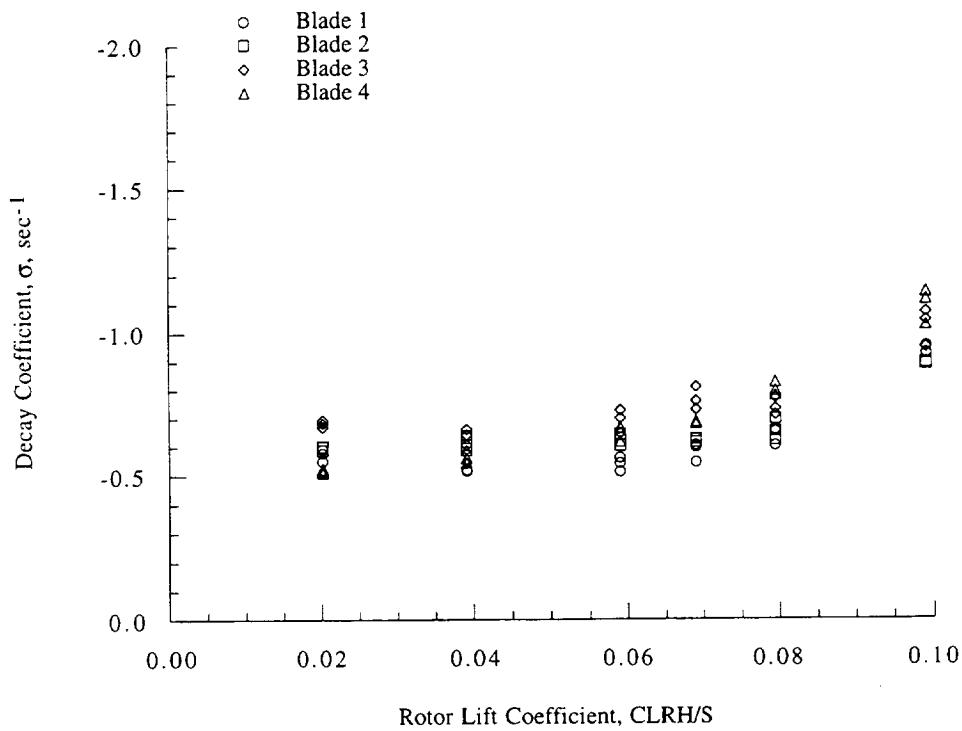


Figure 8(c). Comparison of decay coefficient (σ , sec^{-1}) estimates for each blade as a function of rotor lift, 75 knots, $\alpha = -5$ deg, $r/R = 0.104$, Transient Analysis.

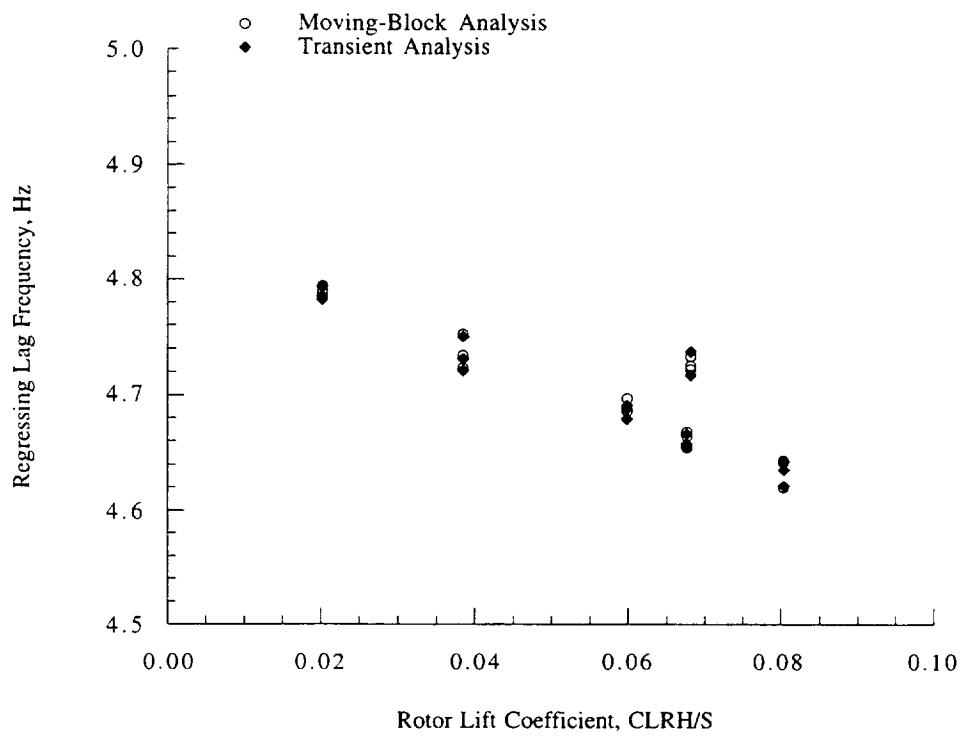


Figure 9(a). Comparison of Moving-Block and Transient Analyses regressing lag frequency estimates as a function of rotor lift, 90 knots, $\alpha = -5$ deg, $r/R = 0.104$ (Blade 1).

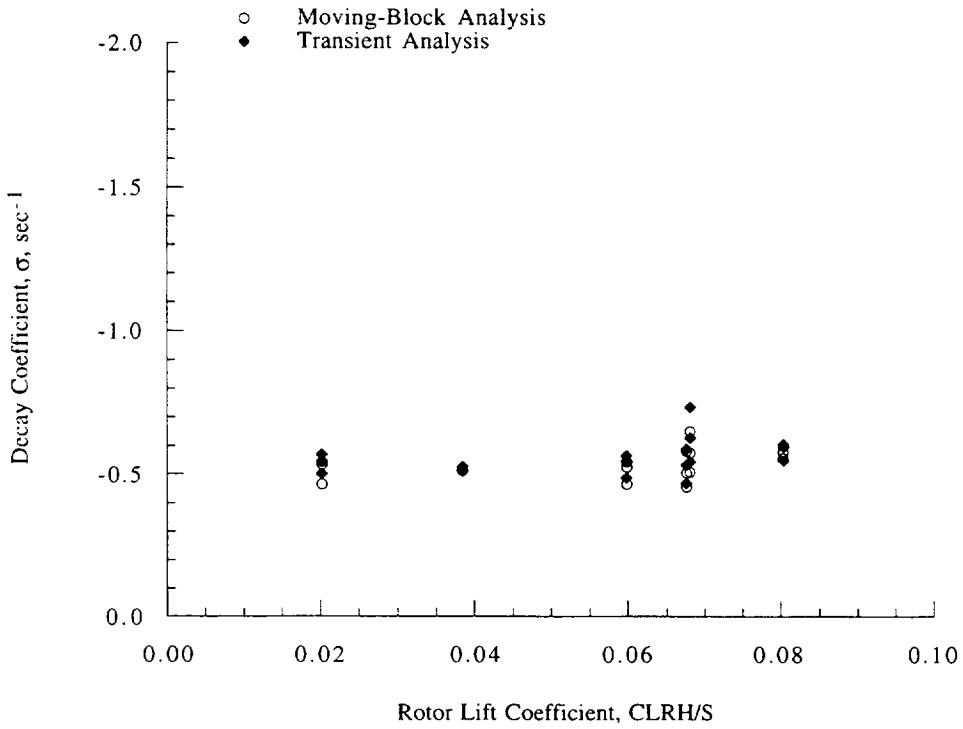


Figure 9(b). Comparison of Moving-Block and Transient Analyses decay coefficient (σ , sec $^{-1}$) estimates as a function of rotor lift, 90 knots, $\alpha = -5$ deg, $r/R = 0.104$ (Blade 1).

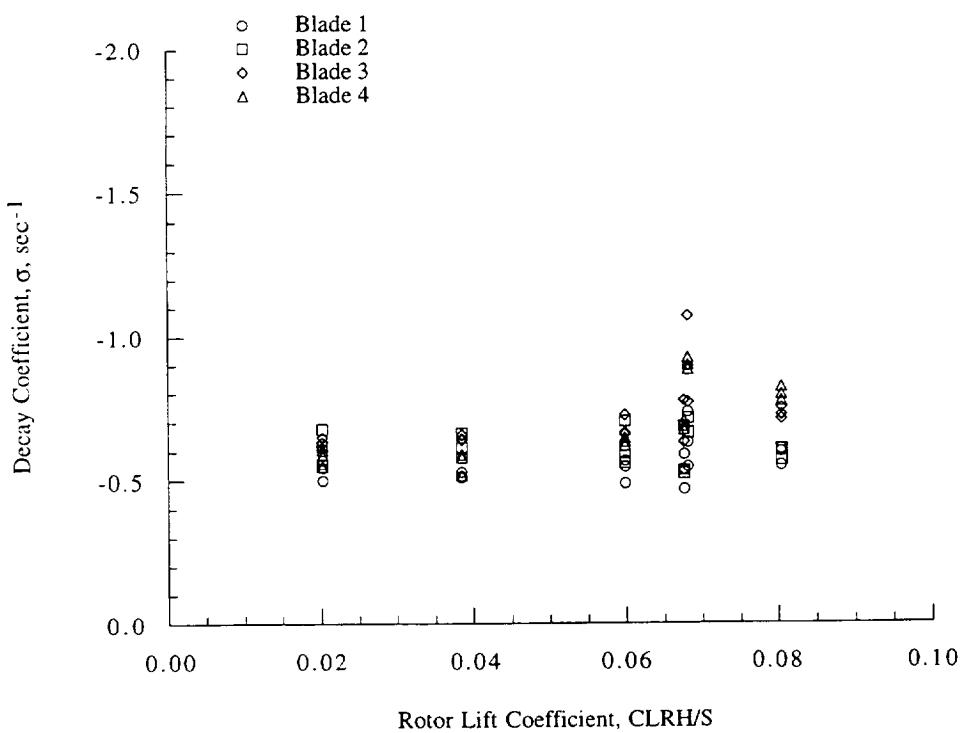


Figure 9(c). Comparison of decay coefficient (σ , sec^{-1}) estimates for each blade as a function of rotor lift, 90 knots, $\alpha = -5$ deg, $r/R = 0.104$, Transient Analysis.

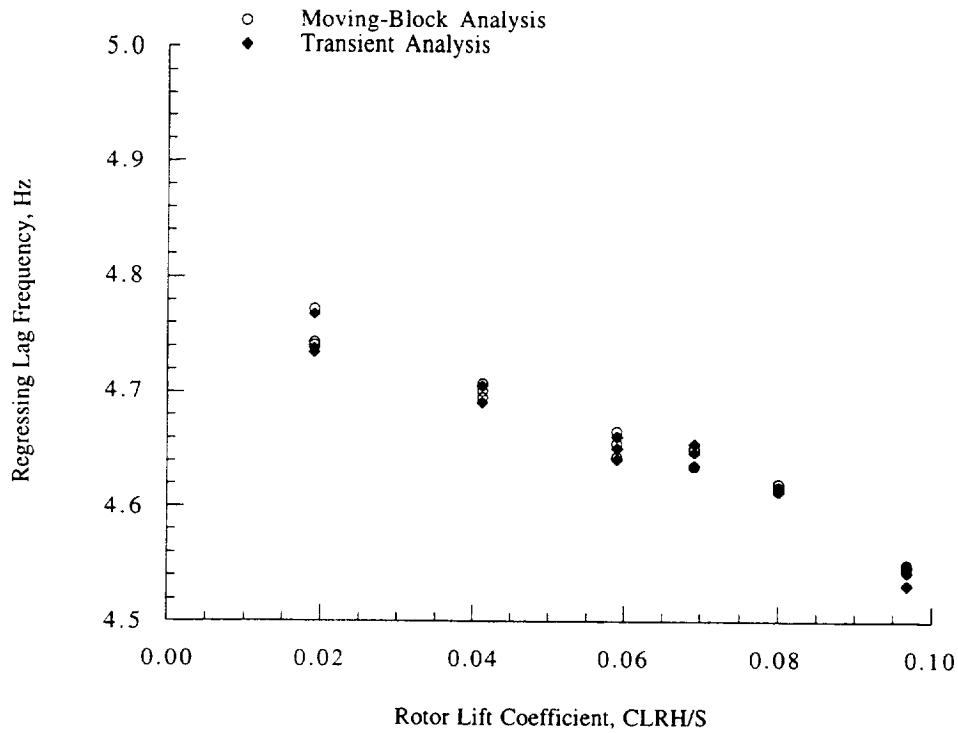


Figure 10(a). Comparison of Moving-Block and Transient Analyses regressing lag frequency estimates as a function of rotor lift, 105 knots, $\alpha = -5$ deg, $r/R = 0.104$ (Blade 1).

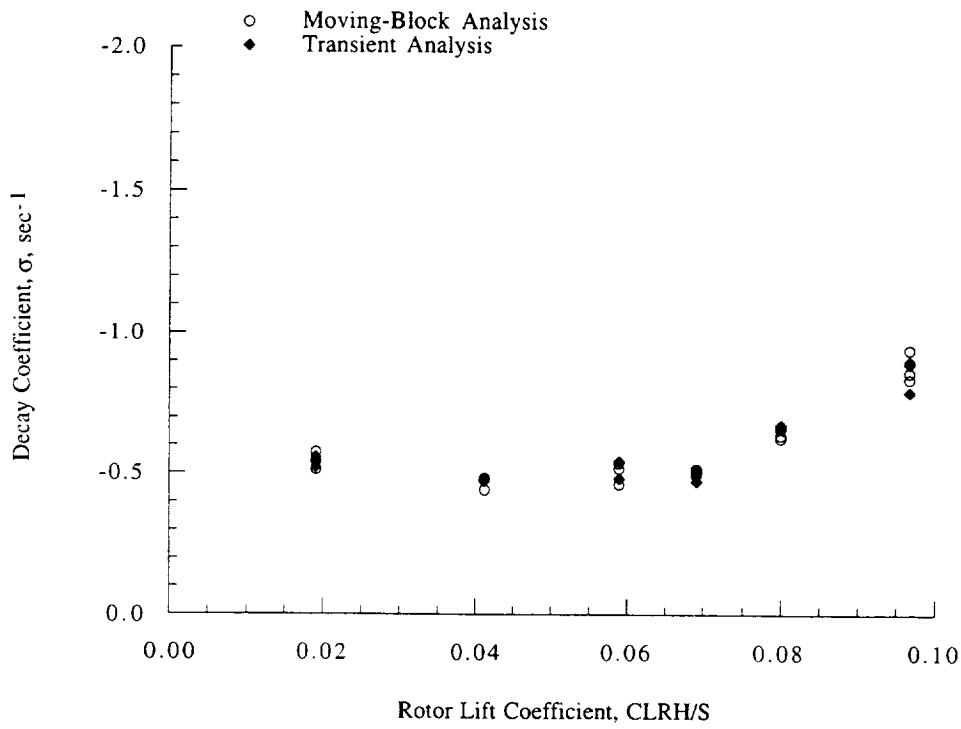


Figure 10(b). Comparison of Moving-Block and Transient Analyses decay coefficient (σ, sec^{-1}) estimates as a function of rotor lift, 105 knots, $\alpha = -5$ deg, $r/R = 0.104$ (Blade 1).

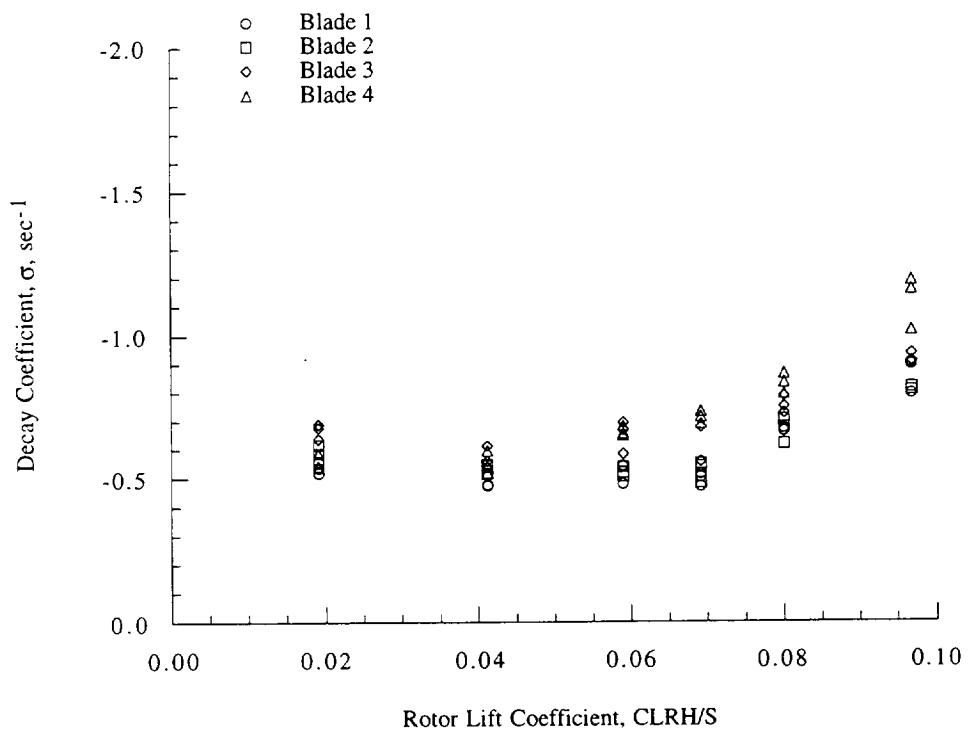


Figure 10(c). Comparison of decay coefficient (σ , sec^{-1}) estimates for each blade as a function of rotor lift, 105 knots, $\alpha = -5 \text{ deg}$, $r/R = 0.104$, Transient Analysis.

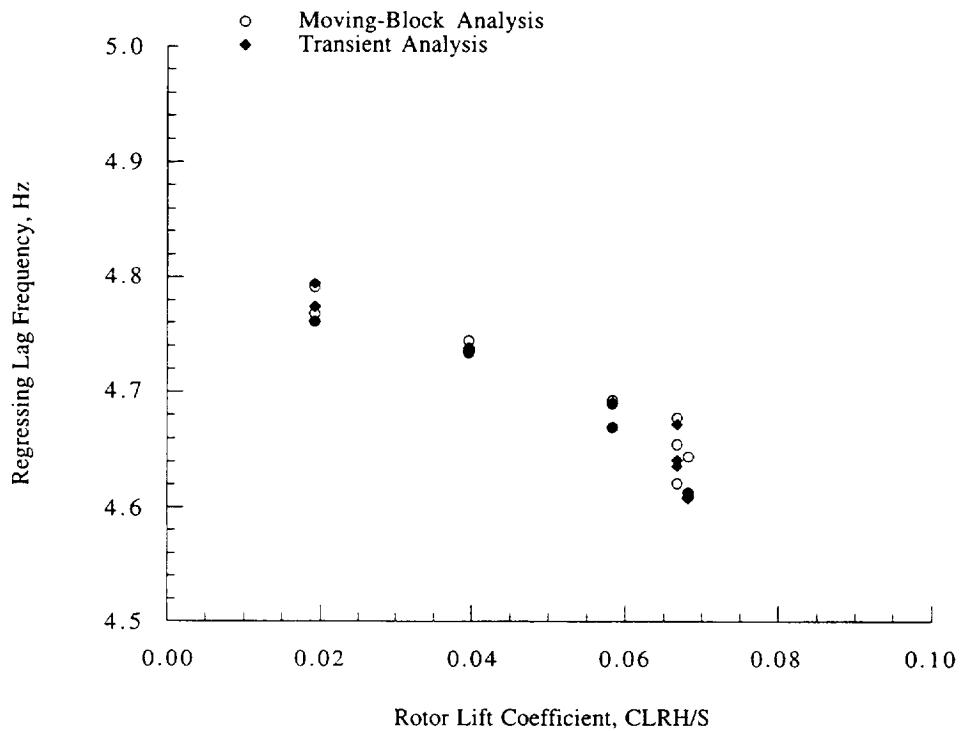


Figure 11(a). Comparison of Moving-Block and Transient Analyses regressing lag frequency estimates as a function of rotor lift, 140 knots, $\alpha = -5$ deg, $r/R = 0.104$ (Blade 1).

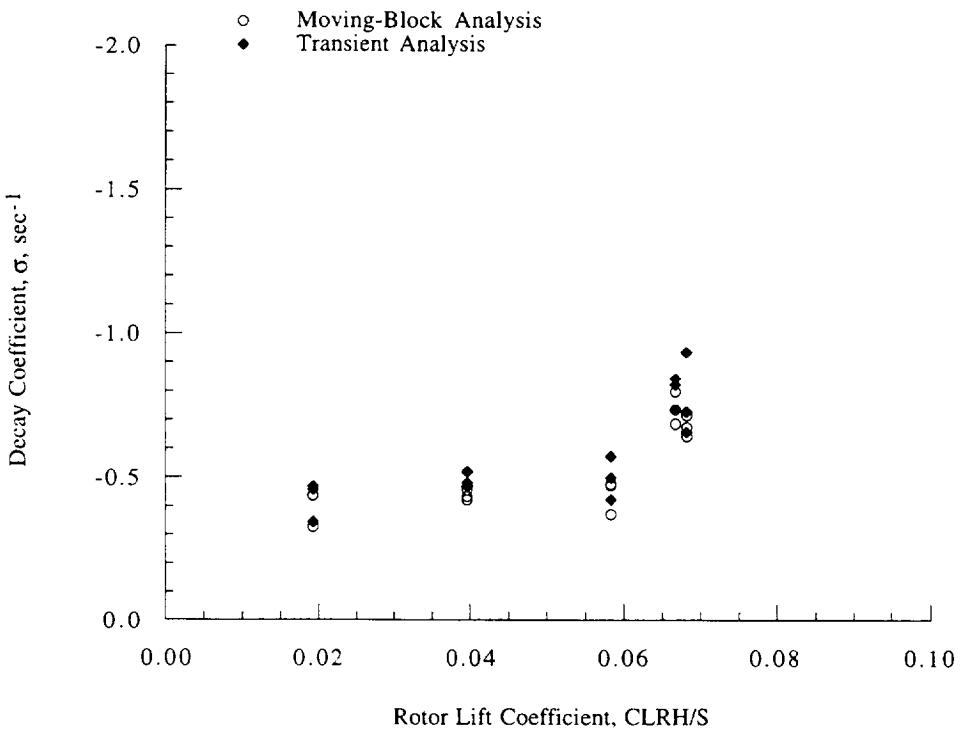


Figure 11(b). Comparison of Moving-Block and Transient Analyses decay coefficient (σ , sec $^{-1}$) estimates as a function of rotor lift, 140 knots, $\alpha = -5$ deg, $r/R = 0.104$ (Blade 1).

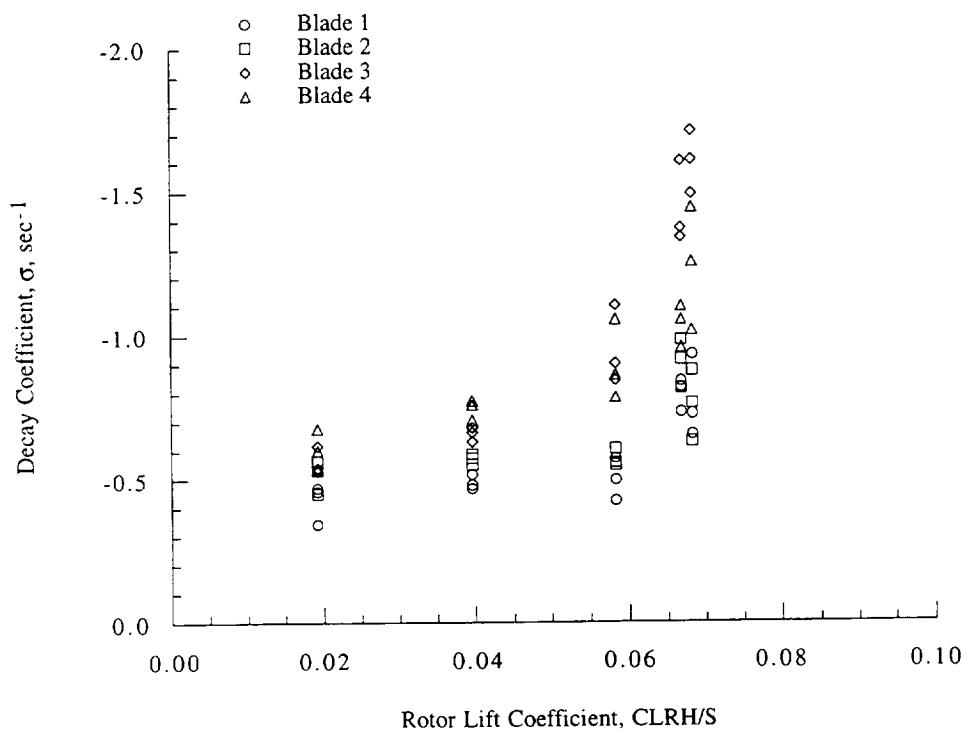


Figure 11(c). Comparison of decay coefficient (σ , sec $^{-1}$) estimates for each blade as a function of rotor lift, 140 knots, $\alpha = -5$ deg, $r/R = 0.104$, Transient Analysis.

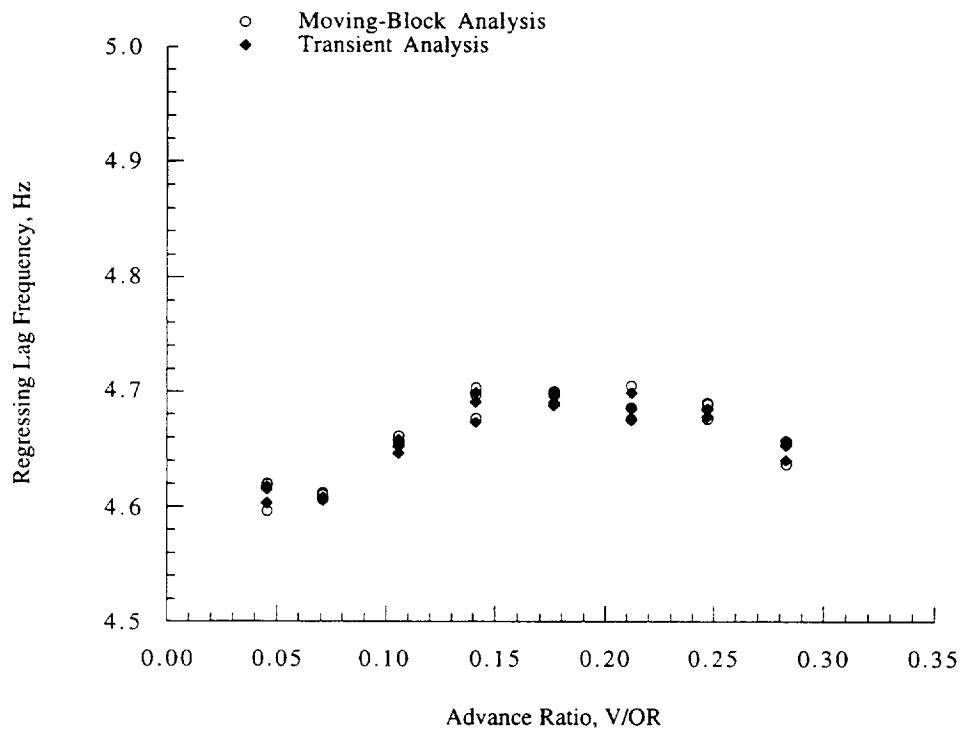


Figure 12(a). Comparison of Moving-Block and Transient Analyses regressing lag frequency estimates as a function of advance ratio, $CLRH/S \approx 0.069$, $\alpha = 0$ deg, $r/R = 0.104$ (Blade 1).

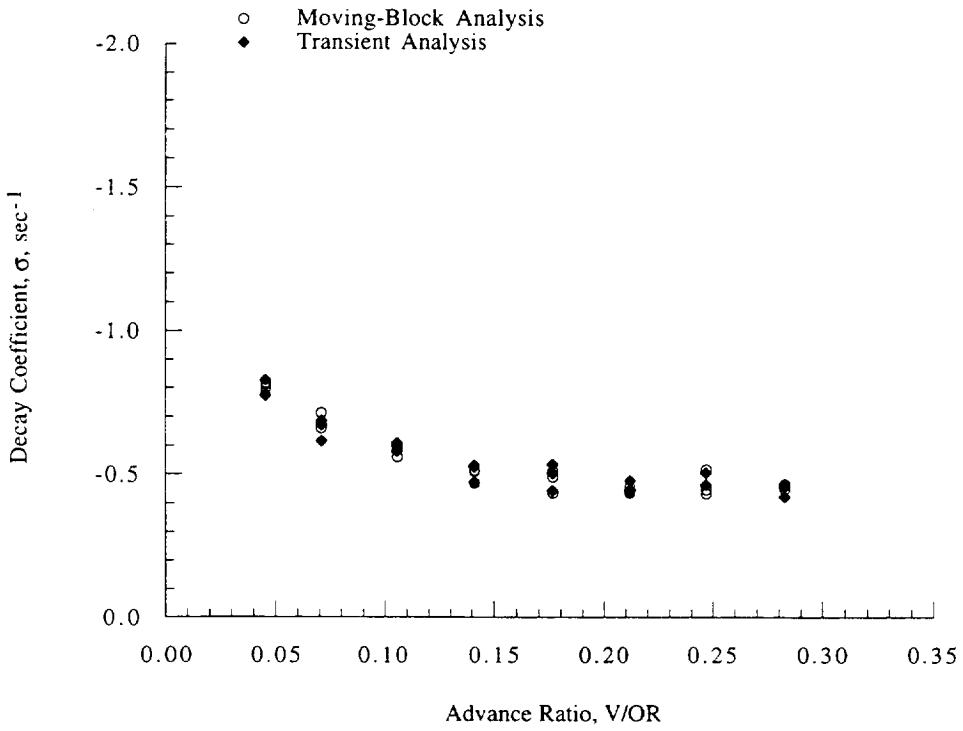


Figure 12(b). Comparison of Moving-Block and Transient Analyses decay coefficient (σ , sec^{-1}) estimates as a function of advance ratio, $CLRH/S \approx 0.069$, $\alpha = 0$ deg, $r/R = 0.104$ (Blade 1).

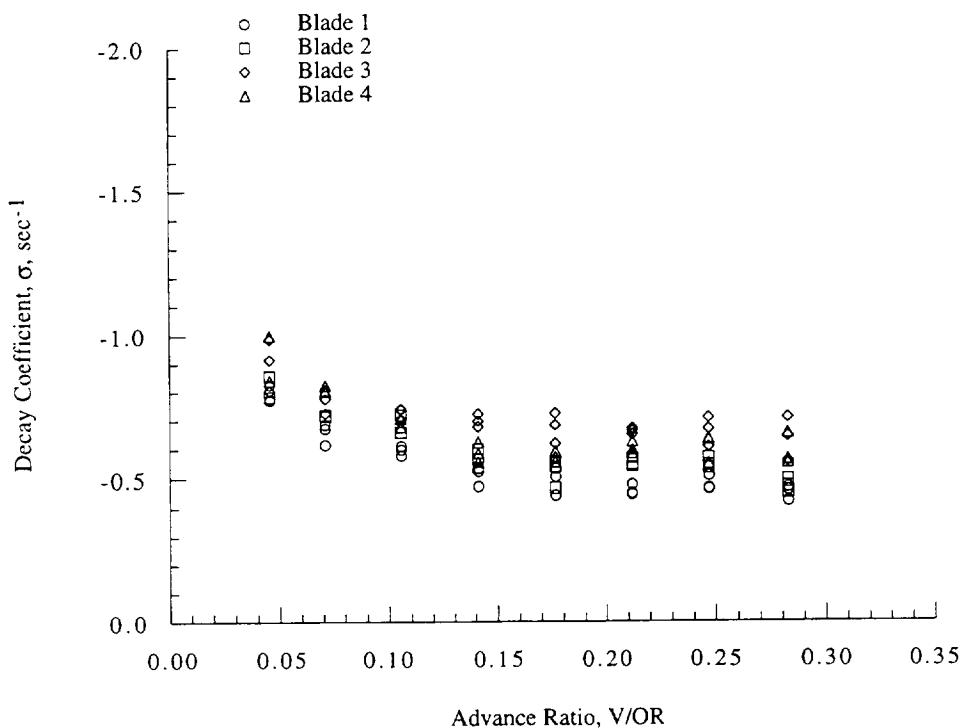


Figure 12(c). Comparison of decay coefficient (σ , sec^{-1}) estimates for each blade as a function of advance ratio, $CLRH/S \approx 0.069$, $\alpha = 0$ deg, $r/R = 0.104$, Transient Analysis.

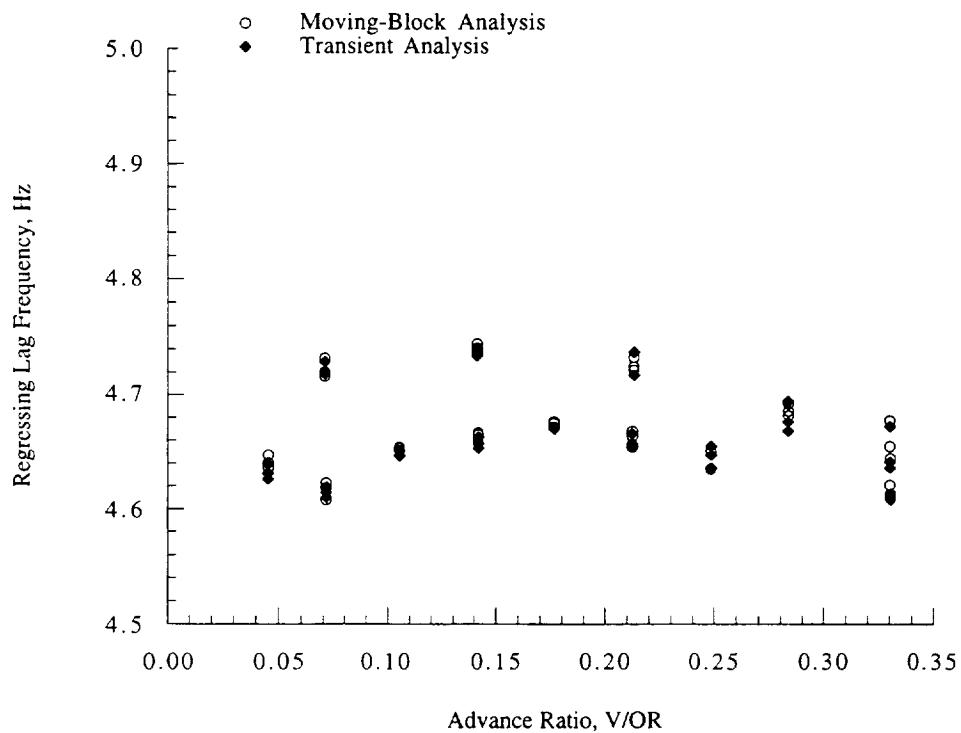


Figure 13(a). Comparison of Moving-Block and Transient Analyses regressing lag frequency estimates as a function of advance ratio, $CLRH/S \approx 0.069$, $\alpha = -5$ deg, $r/R = 0.104$ (Blade 1).

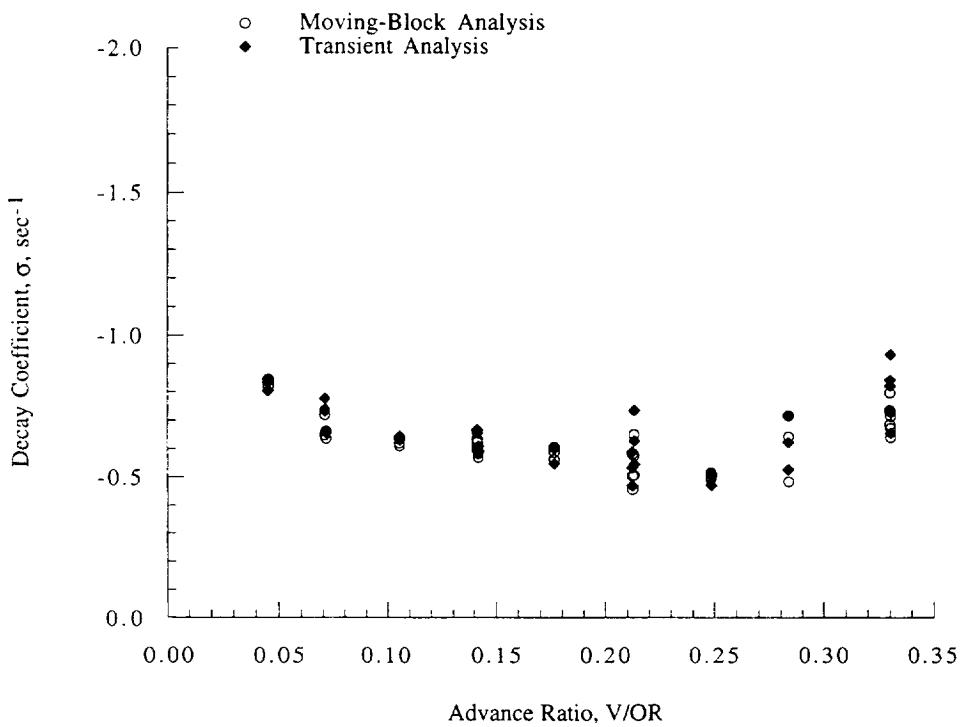


Figure 13(b). Comparison of Moving-Block and Transient Analyses decay coefficient (σ, sec^{-1}) estimates as a function of advance ratio, $CLRH/S \approx 0.069$, $\alpha = -5$ deg, $r/R = 0.104$ (Blade 1).

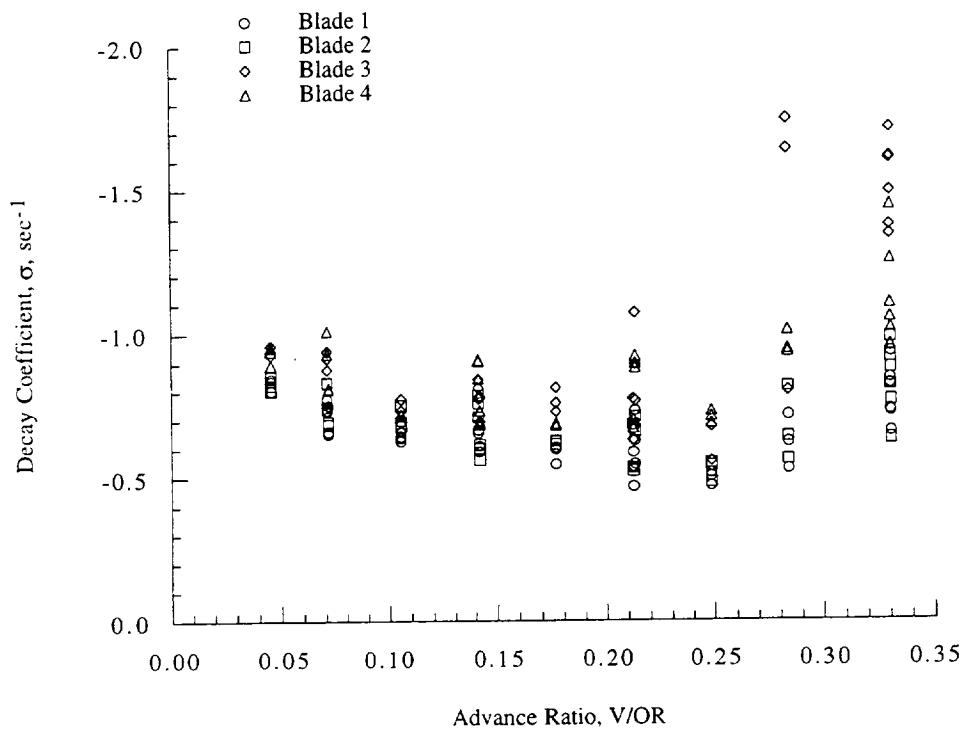


Figure 13(c). Comparison of decay coefficient (σ , sec^{-1}) estimates for each blade as a function of advance ratio, $CLRH/S \approx 0.069$, $\alpha = -5$ deg, $r/R = 0.104$, Transient Analysis.

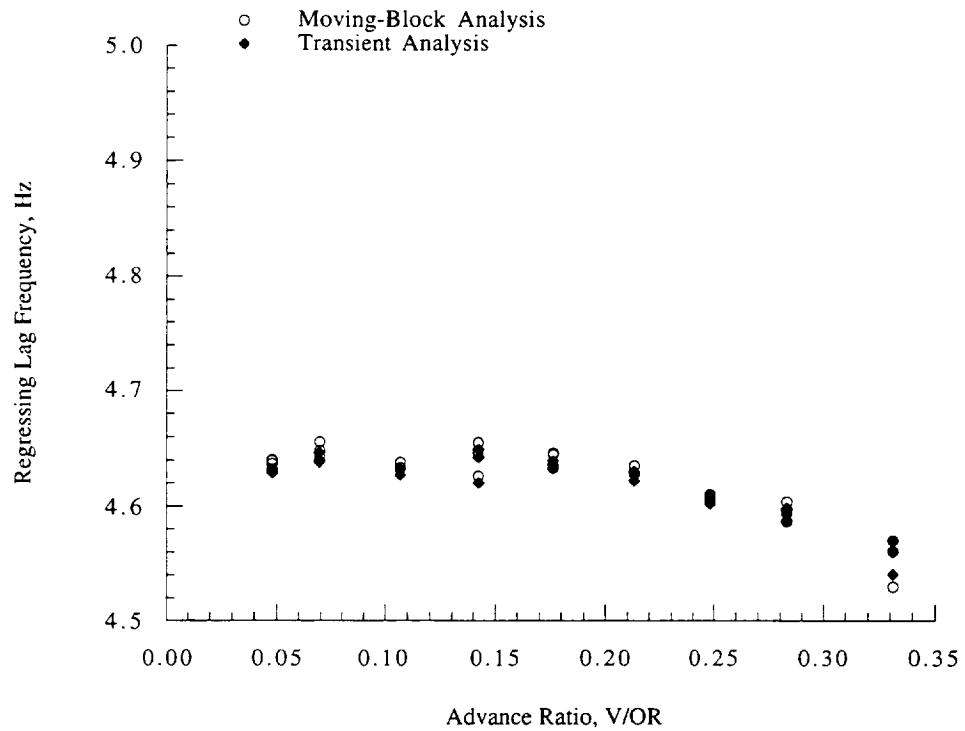


Figure 14(a). Comparison of Moving-Block and Transient Analyses regressing lag frequency estimates as a function of advance ratio, $CLRH/S \approx 0.069$, $\alpha = -10$ deg, $r/R = 0.104$ (Blade 1).

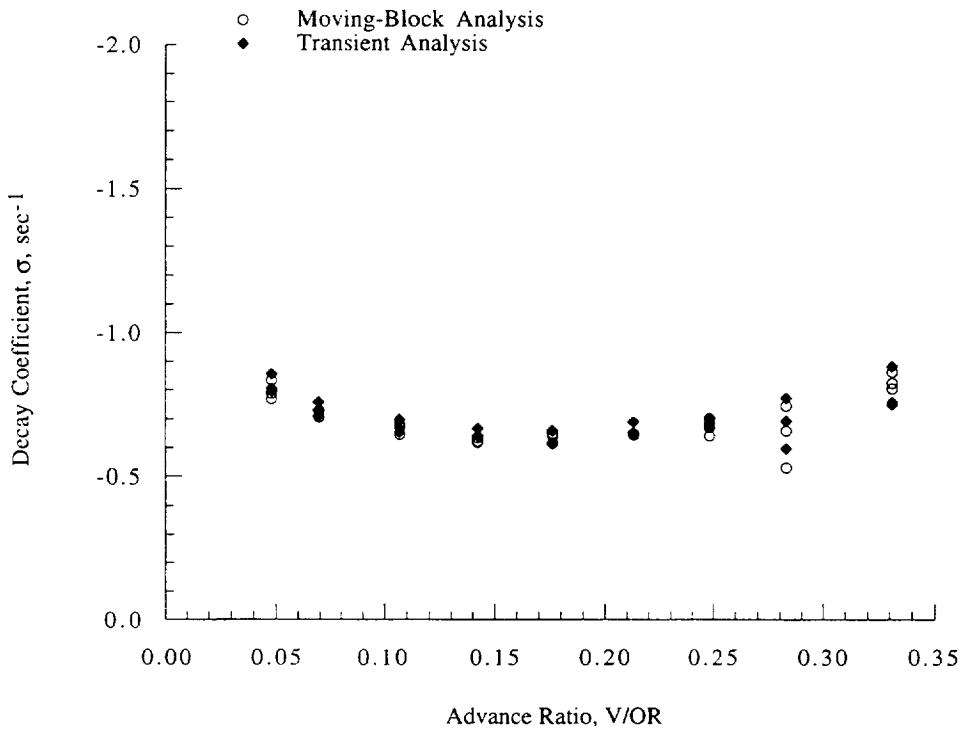


Figure 14(b). Comparison of Moving-Block and Transient Analyses decay coefficient (σ , sec^{-1}) estimates as a function of advance ratio, $CLRH/S \approx 0.069$, $\alpha = -10$ deg, $r/R = 0.104$ (Blade 1).

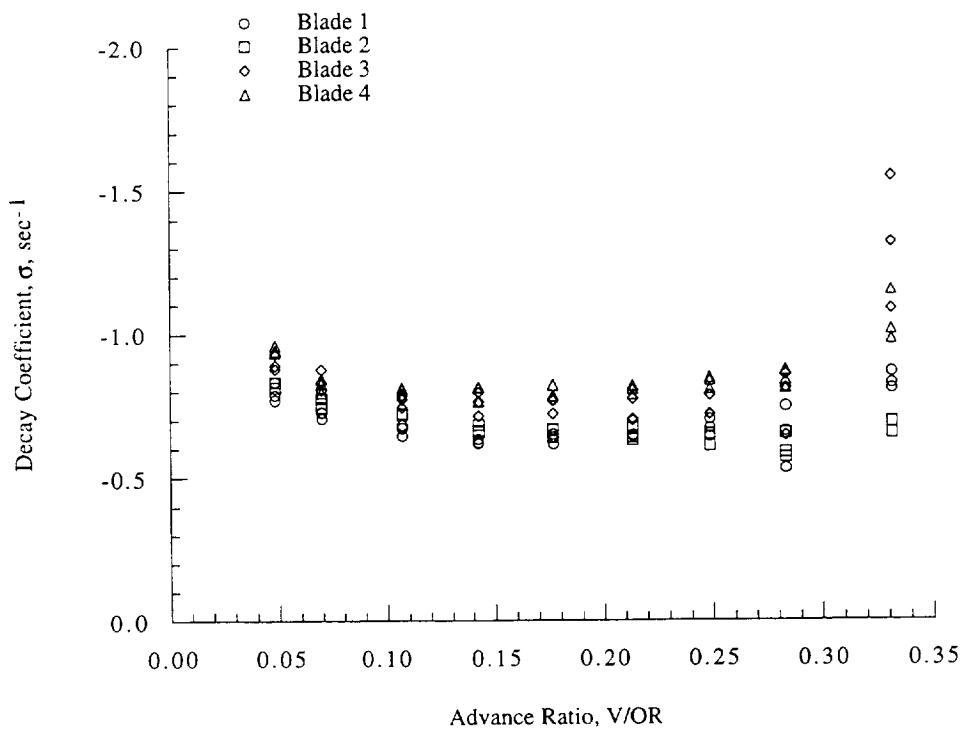


Figure 14(c). Comparison of decay coefficient (σ , sec^{-1}) estimates for each blade as a function of advance ratio, $CLRH/S \approx 0.069$, $\alpha = -10$ deg, $r/R = 0.104$, Transient Analysis.

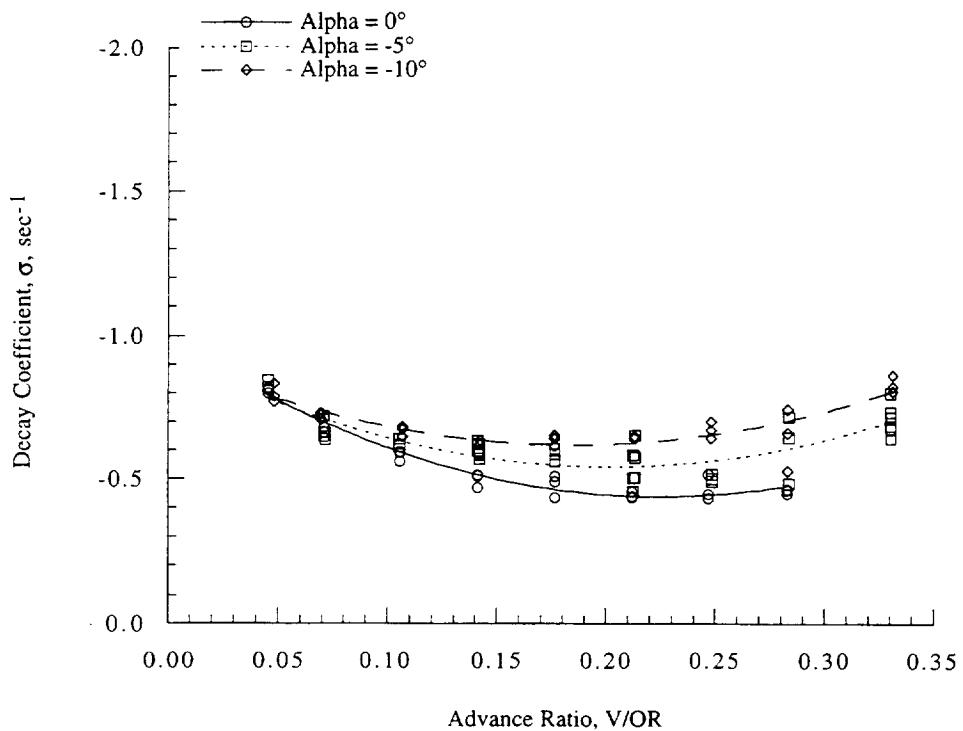


Figure 15(a). Comparison of decay coefficient (σ , sec⁻¹) estimates as a function of shaft angle and advance ratio, CLRH/S = 0.069, r/R = 0.104 (Blade 1), Moving-Block Analysis.

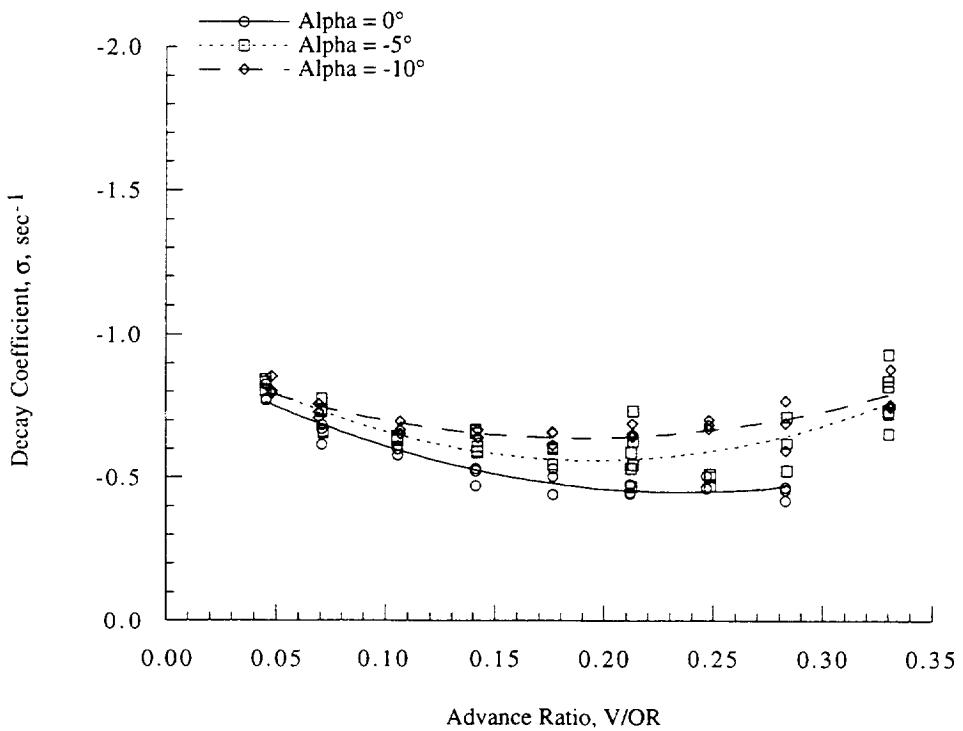


Figure 15(b). Comparison of decay coefficient (σ , sec⁻¹) estimates as a function of shaft angle and advance ratio, CLRH/S ≈ 0.069, r/R = 0.104 (Blade 1), Transient Analysis.

Appendix A

Hover Performance and Aeroelastic Stability Data

Performance and aeroelastic stability data for hover test conditions are presented in the following tables. Data are

grouped in terms of increasing rotor lift for a shaft angle-of-attack (ALPHA) of -10 deg. The repeat stability measurements that were acquired at each test condition have the same run and point nomenclature for easy identification. The rotor control positions presented in these tables are based on the fixed-system actuator positions.

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|-----------|----------|----------|------------|----------|---------------|----------------|-------------|
| 42 | 0.0063 | 2.7 | -10.0 | -0.0 | 0.001594 | 0.000193 | 0.000128 |
| 7 | 0.002409 | 425.9 | 2.4 | 0.0 | 0.000262 | -0.000293 | 0.001216 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.89 | -0.394 | 1.282 | 4.90 | -0.410 | 1.330 |
| 1 | 0.144 | 4.89 | -0.391 | 1.273 | 4.90 | -0.407 | 1.321 |
| 2 | 0.104 | 4.89 | -0.515 | 1.676 | 4.89 | -0.516 | 1.679 |
| 2 | 0.144 | 4.89 | -0.514 | 1.673 | 4.89 | -0.519 | 1.689 |
| 3 | 0.104 | 4.91 | -0.485 | 1.570 | 4.91 | -0.525 | 1.700 |
| 3 | 0.144 | 4.91 | -0.484 | 1.569 | 4.91 | -0.515 | 1.669 |
| 4 | 0.104 | 4.91 | -0.456 | 1.479 | 4.91 | -0.462 | 1.498 |
| 4 | 0.144 | 4.91 | -0.453 | 1.468 | 4.91 | -0.461 | 1.496 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 42 | 0.0063 | 2.7 | -10.0 | -0.0 | 0.001594 | 0.000193 | 0.000128 |
| 7 | 0.002409 | 425.9 | 2.4 | 0.0 | 0.000262 | -0.000293 | 0.001216 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.92 | -0.370 | 1.197 | 4.93 | -0.366 | 1.181 |
| 1 | 0.144 | 4.92 | -0.369 | 1.193 | 4.93 | -0.363 | 1.173 |
| 2 | 0.104 | 4.94 | -0.427 | 1.376 | 4.93 | -0.471 | 1.520 |
| 2 | 0.144 | 4.94 | -0.424 | 1.367 | 4.93 | -0.467 | 1.505 |
| 3 | 0.104 | 4.95 | -0.456 | 1.469 | 4.94 | -0.451 | 1.454 |
| 3 | 0.144 | 4.94 | -0.454 | 1.463 | 4.94 | -0.443 | 1.428 |
| 4 | 0.104 | 4.94 | -0.355 | 1.144 | 4.95 | -0.380 | 1.221 |
| 4 | 0.144 | 4.94 | -0.358 | 1.153 | 4.95 | -0.383 | 1.230 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 42 | 0.0063 | 2.7 | -10.0 | -0.0 | 0.001594 | 0.000193 | 0.000128 |
| 7 | 0.002409 | 425.9 | 2.4 | 0.0 | 0.000262 | -0.000293 | 0.001216 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.94 | -0.320 | 1.032 | 4.94 | -0.341 | 1.098 |
| 1 | 0.144 | 4.94 | -0.324 | 1.046 | 4.94 | -0.345 | 1.111 |
| 2 | 0.104 | 4.93 | -0.450 | 1.454 | 4.93 | -0.421 | 1.358 |
| 2 | 0.144 | 4.93 | -0.458 | 1.479 | 4.93 | -0.432 | 1.396 |
| 3 | 0.104 | 4.95 | -0.384 | 1.232 | 4.95 | -0.394 | 1.266 |
| 3 | 0.144 | 4.95 | -0.396 | 1.274 | 4.95 | -0.411 | 1.322 |
| 4 | 0.104 | 4.94 | -0.391 | 1.260 | 4.95 | -0.362 | 1.165 |
| 4 | 0.144 | 4.94 | -0.389 | 1.252 | 4.94 | -0.378 | 1.218 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|-----------|----------|----------|------------|----------|---------------|----------------|-------------|
| 11 | 0.0063 | 2.7 | -10.0 | -0.0 | 0.008966 | -0.000030 | -0.000571 |
| 6 | 0.002415 | 425.0 | 3.7 | -0.0 | 0.001850 | 0.000021 | 0.001408 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.94 | -0.632 | 2.035 | 4.93 | -0.658 | 2.124 |
| 1 | 0.144 | 4.94 | -0.613 | 1.977 | 4.92 | -0.635 | 2.053 |
| 2 | 0.104 | 4.92 | -0.626 | 2.025 | 4.92 | -0.630 | 2.038 |
| 2 | 0.144 | 4.92 | -0.607 | 1.963 | 4.92 | -0.610 | 1.973 |
| 3 | 0.104 | 4.95 | -0.765 | 2.462 | 4.93 | -0.816 | 2.634 |
| 3 | 0.144 | 4.94 | -0.737 | 2.371 | 4.92 | -0.777 | 2.513 |
| 4 | 0.104 | 4.94 | -0.606 | 1.953 | 4.94 | -0.603 | 1.941 |
| 4 | 0.144 | 4.94 | -0.587 | 1.892 | 4.94 | -0.583 | 1.878 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.99 | -0.474 | 1.511 | 4.98 | -0.554 | 1.773 |
| 1 | 0.144 | 4.99 | -0.461 | 1.471 | 4.97 | -0.536 | 1.713 |
| 2 | 0.104 | 4.98 | -0.545 | 1.744 | 4.96 | -0.560 | 1.795 |
| 2 | 0.144 | 4.98 | -0.535 | 1.712 | 4.96 | -0.547 | 1.754 |
| 3 | 0.104 | 5.00 | -0.548 | 1.745 | 4.98 | -0.669 | 2.135 |
| 3 | 0.144 | 5.00 | -0.534 | 1.699 | 4.98 | -0.636 | 2.033 |
| 4 | 0.104 | 4.99 | -0.505 | 1.610 | 4.98 | -0.533 | 1.702 |
| 4 | 0.144 | 4.99 | -0.491 | 1.564 | 4.98 | -0.513 | 1.639 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.94 | -0.541 | 1.741 | 4.94 | -0.542 | 1.748 |
| 1 | 0.144 | 4.94 | -0.525 | 1.690 | 4.93 | -0.532 | 1.715 |
| 2 | 0.104 | 4.94 | -0.570 | 1.834 | 4.93 | -0.601 | 1.938 |
| 2 | 0.144 | 4.94 | -0.569 | 1.833 | 4.93 | -0.604 | 1.950 |
| 3 | 0.104 | 4.94 | -0.634 | 2.040 | 4.94 | -0.680 | 2.192 |
| 3 | 0.144 | 4.95 | -0.629 | 2.023 | 4.94 | -0.635 | 2.046 |
| 4 | 0.104 | 4.96 | -0.543 | 1.744 | 4.95 | -0.600 | 1.929 |
| 4 | 0.144 | 4.96 | -0.536 | 1.722 | 4.95 | -0.586 | 1.885 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/S CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|--------------|-------------|-------------|---------------|------------|--------------------|-------------------|----------------|
| 11 | 0.0063 | 2.7 | -10.0 | -0.0 | 0.008966 | -0.000030 | -0.000571 |
| 6 | 0.002415 | 425.0 | 3.7 | -0.0 | 0.001850 | 0.000021 | 0.001408 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.94 | -0.569 | 1.833 | 4.93 | -0.595 | 1.919 |
| 1 | 0.144 | 4.94 | -0.555 | 1.790 | 4.93 | -0.582 | 1.878 |
| 2 | 0.104 | 4.93 | -0.546 | 1.763 | 4.93 | -0.583 | 1.883 |
| 2 | 0.144 | 4.93 | -0.541 | 1.749 | 4.92 | -0.572 | 1.849 |
| 3 | 0.104 | 4.95 | -0.659 | 2.119 | 4.93 | -0.728 | 2.348 |
| 3 | 0.144 | 4.95 | -0.643 | 2.068 | 4.93 | -0.694 | 2.237 |
| 4 | 0.104 | 4.94 | -0.536 | 1.726 | 4.94 | -0.564 | 1.817 |
| 4 | 0.144 | 4.94 | -0.527 | 1.697 | 4.94 | -0.550 | 1.772 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/S CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 11 | 0.0057 | 2.4 | -10.0 | -0.0 | 0.023685 | 0.000091 | -0.000424 |
| 7 | 0.002414 | 425.6 | 5.6 | -0.0 | 0.004686 | -0.000214 | 0.001976 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.92 | -0.585 | 1.894 | 4.91 | -0.596 | 1.932 |
| 1 | 0.144 | 4.92 | -0.561 | 1.813 | 4.91 | -0.592 | 1.917 |
| 2 | 0.104 | 4.90 | -0.662 | 2.150 | 4.89 | -0.624 | 2.030 |
| 2 | 0.144 | 4.90 | -0.648 | 2.106 | 4.89 | -0.608 | 1.979 |
| 3 | 0.104 | 4.93 | -0.690 | 2.230 | 4.91 | -0.740 | 2.397 |
| 3 | 0.144 | 4.92 | -0.699 | 2.260 | 4.90 | -0.729 | 2.365 |
| 4 | 0.104 | 4.92 | -0.635 | 2.052 | 4.92 | -0.616 | 1.993 |
| 4 | 0.144 | 4.92 | -0.632 | 2.045 | 4.91 | -0.596 | 1.933 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/S CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 11 | 0.0057 | 2.4 | -10.0 | -0.0 | 0.023685 | 0.000091 | -0.000424 |
| 7 | 0.002414 | 425.6 | 5.6 | -0.0 | 0.004686 | -0.000214 | 0.001976 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.92 | -0.585 | 1.892 | 4.91 | -0.587 | 1.902 |
| 1 | 0.144 | 4.92 | -0.572 | 1.852 | 4.91 | -0.571 | 1.850 |
| 2 | 0.104 | 4.91 | -0.645 | 2.089 | 4.91 | -0.687 | 2.227 |
| 2 | 0.144 | 4.91 | -0.635 | 2.058 | 4.90 | -0.671 | 2.177 |
| 3 | 0.104 | 4.92 | -0.699 | 2.259 | 4.92 | -0.726 | 2.350 |
| 3 | 0.144 | 4.92 | -0.700 | 2.264 | 4.92 | -0.715 | 2.312 |
| 4 | 0.104 | 4.93 | -0.614 | 1.981 | 4.93 | -0.661 | 2.136 |
| 4 | 0.144 | 4.93 | -0.612 | 1.974 | 4.93 | -0.651 | 2.103 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|-----------|----------|----------|------------|----------|---------------|----------------|-------------|
| 11 | 0.0057 | 2.4 | -10.0 | -0.0 | 0.023685 | 0.000091 | -0.000424 |
| 7 | 0.002414 | 425.6 | 5.6 | -0.0 | 0.004686 | -0.000214 | 0.001976 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.89 | -0.669 | 2.177 | 4.89 | -0.679 | 2.210 |
| 1 | 0.144 | 4.89 | -0.643 | 2.093 | 4.89 | -0.656 | 2.137 |
| 2 | 0.104 | 4.90 | -0.650 | 2.112 | 4.89 | -0.688 | 2.240 |
| 2 | 0.144 | 4.90 | -0.637 | 2.070 | 4.89 | -0.671 | 2.185 |
| 3 | 0.104 | 4.90 | -0.808 | 2.624 | 4.88 | -0.838 | 2.729 |
| 3 | 0.144 | 4.89 | -0.785 | 2.553 | 4.88 | -0.803 | 2.618 |
| 4 | 0.104 | 4.92 | -0.628 | 2.033 | 4.91 | -0.679 | 2.200 |
| 4 | 0.144 | 4.91 | -0.607 | 1.966 | 4.91 | -0.648 | 2.099 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 11 | 0.0057 | 2.4 | -10.0 | -0.0 | 0.023685 | 0.000091 | -0.000424 |
| 7 | 0.002414 | 425.6 | 5.6 | -0.0 | 0.004686 | -0.000214 | 0.001976 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.92 | -0.670 | 2.167 | 4.91 | -0.694 | 2.251 |
| 1 | 0.144 | 4.91 | -0.651 | 2.109 | 4.90 | -0.671 | 2.179 |
| 2 | 0.104 | 4.89 | -0.645 | 2.097 | 4.89 | -0.628 | 2.041 |
| 2 | 0.144 | 4.89 | -0.625 | 2.033 | 4.89 | -0.610 | 1.983 |
| 3 | 0.104 | 4.93 | -0.832 | 2.688 | 4.91 | -0.876 | 2.838 |
| 3 | 0.144 | 4.92 | -0.800 | 2.588 | 4.91 | -0.835 | 2.708 |
| 4 | 0.104 | 4.92 | -0.625 | 2.021 | 4.91 | -0.647 | 2.093 |
| 4 | 0.144 | 4.92 | -0.610 | 1.974 | 4.91 | -0.623 | 2.017 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 11 | 0.0064 | 2.7 | -10.0 | -0.0 | 0.041999 | 0.000218 | -0.000355 |
| 8 | 0.002408 | 424.0 | 7.7 | -0.0 | 0.007989 | -0.000557 | 0.003047 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.84 | -0.674 | 2.215 | 4.84 | -0.701 | 2.306 |
| 1 | 0.144 | 4.84 | -0.652 | 2.146 | 4.84 | -0.667 | 2.194 |
| 2 | 0.104 | 4.85 | -0.836 | 2.742 | 4.83 | -0.934 | 3.077 |
| 2 | 0.144 | 4.85 | -0.928 | 3.045 | 4.81 | -0.951 | 3.144 |
| 3 | 0.104 | 4.83 | -0.835 | 2.750 | 4.83 | -0.868 | 2.858 |
| 3 | 0.144 | 4.83 | -0.814 | 2.684 | 4.82 | -0.832 | 2.744 |
| 4 | 0.104 | 4.88 | -0.786 | 2.565 | 4.86 | -0.924 | 3.024 |
| 4 | 0.144 | 4.88 | -0.752 | 2.455 | 4.86 | -0.861 | 2.821 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/S CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|--------------|-------------|-------------|---------------|------------|--------------------|-------------------|----------------|
| 11 | 0.0064 | 2.7 | -10.0 | -0.0 | 0.041999 | 0.000218 | -0.000355 |
| 8 | 0.002408 | 424.0 | 7.7 | -0.0 | 0.007989 | -0.000557 | 0.003047 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.80 | -0.740 | 2.451 | 4.79 | -0.773 | 2.567 |
| 1 | 0.144 | 4.80 | -0.709 | 2.351 | 4.78 | -0.719 | 2.390 |
| 2 | 0.104 | 4.82 | -0.834 | 2.754 | 4.79 | -0.867 | 2.878 |
| 2 | 0.144 | 4.82 | -0.804 | 2.655 | 4.79 | -0.831 | 2.758 |
| 3 | 0.104 | 4.79 | -0.823 | 2.731 | 4.78 | -0.842 | 2.802 |
| 3 | 0.144 | 4.79 | -0.782 | 2.599 | 4.77 | -0.806 | 2.690 |
| 4 | 0.104 | 4.84 | -0.911 | 2.997 | 4.81 | -1.008 | 3.332 |
| 4 | 0.144 | 4.84 | -0.865 | 2.846 | 4.81 | -0.931 | 3.078 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/S CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 11 | 0.0064 | 2.7 | -10.0 | -0.0 | 0.041999 | 0.000218 | -0.000355 |
| 8 | 0.002408 | 424.0 | 7.7 | -0.0 | 0.007989 | -0.000557 | 0.003047 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.81 | -0.665 | 2.199 | 4.81 | -0.751 | 2.486 |
| 1 | 0.144 | 4.81 | -0.644 | 2.133 | 4.80 | -0.713 | 2.362 |
| 2 | 0.104 | 4.80 | -0.761 | 2.523 | 4.78 | -0.821 | 2.732 |
| 2 | 0.144 | 4.80 | -0.739 | 2.448 | 4.78 | -0.793 | 2.638 |
| 3 | 0.104 | 4.81 | -0.759 | 2.512 | 4.80 | -0.854 | 2.834 |
| 3 | 0.144 | 4.80 | -0.739 | 2.449 | 4.79 | -0.826 | 2.745 |
| 4 | 0.104 | 4.82 | -0.773 | 2.551 | 4.80 | -0.857 | 2.838 |
| 4 | 0.144 | 4.82 | -0.737 | 2.432 | 4.81 | -0.817 | 2.703 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/S CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 11 | 0.0064 | 2.7 | -10.0 | -0.0 | 0.041999 | 0.000218 | -0.000355 |
| 8 | 0.002408 | 424.0 | 7.7 | -0.0 | 0.007989 | -0.000557 | 0.003047 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.79 | -0.800 | 2.656 | 4.78 | -0.770 | 2.559 |
| 1 | 0.144 | 4.79 | -0.776 | 2.580 | 4.78 | -0.739 | 2.459 |
| 2 | 0.104 | 4.81 | -0.842 | 2.783 | 4.79 | -0.860 | 2.858 |
| 2 | 0.144 | 4.81 | -0.819 | 2.708 | 4.79 | -0.825 | 2.743 |
| 3 | 0.104 | 4.80 | -0.969 | 3.213 | 4.77 | -0.896 | 2.989 |
| 3 | 0.144 | 4.79 | -0.934 | 3.105 | 4.77 | -0.904 | 3.015 |
| 4 | 0.104 | 4.84 | -0.840 | 2.762 | 4.82 | -0.881 | 2.910 |
| 4 | 0.144 | 4.84 | -0.802 | 2.639 | 4.81 | -0.831 | 2.747 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|-----------|----------|----------|------------|----------|---------------|----------------|-------------|
| 42 | 0.0098 | 4.2 | -10.0 | 0.0 | 0.048018 | 0.000463 | 0.000396 |
| 8 | 0.00241 | 425.5 | 8.5 | -0.3 | 0.008299 | -0.000767 | 0.003579 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.74 | -0.643 | 2.160 | 4.72 | -0.667 | 2.247 |
| 1 | 0.144 | 4.74 | -0.624 | 2.095 | 4.72 | -0.646 | 2.176 |
| 2 | 0.104 | 4.71 | -0.747 | 2.522 | 4.70 | -0.703 | 2.380 |
| 2 | 0.144 | 4.71 | -0.715 | 2.416 | 4.70 | -0.674 | 2.280 |
| 3 | 0.104 | 4.73 | -0.805 | 2.711 | 4.71 | -0.810 | 2.733 |
| 3 | 0.144 | 4.73 | -0.784 | 2.638 | 4.71 | -0.783 | 2.645 |
| 4 | 0.104 | 4.73 | -0.758 | 2.549 | 4.72 | -0.763 | 2.574 |
| 4 | 0.144 | 4.73 | -0.726 | 2.444 | 4.72 | -0.727 | 2.454 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.71 | -0.613 | 2.072 | 4.69 | -0.659 | 2.233 |
| 1 | 0.144 | 4.70 | -0.587 | 1.986 | 4.69 | -0.626 | 2.122 |
| 2 | 0.104 | 4.68 | -0.712 | 2.423 | 4.67 | -0.679 | 2.315 |
| 2 | 0.144 | 4.68 | -0.684 | 2.326 | 4.67 | -0.650 | 2.217 |
| 3 | 0.104 | 4.70 | -0.721 | 2.441 | 4.68 | -0.783 | 2.660 |
| 3 | 0.144 | 4.69 | -0.699 | 2.371 | 4.68 | -0.725 | 2.467 |
| 4 | 0.104 | 4.70 | -0.748 | 2.534 | 4.69 | -0.756 | 2.567 |
| 4 | 0.144 | 4.69 | -0.715 | 2.423 | 4.68 | -0.710 | 2.413 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.71 | -0.659 | 2.228 | 4.70 | -0.698 | 2.365 |
| 1 | 0.144 | 4.70 | -0.637 | 2.154 | 4.70 | -0.669 | 2.267 |
| 2 | 0.104 | 4.70 | -0.711 | 2.407 | 4.69 | -0.734 | 2.492 |
| 2 | 0.144 | 4.70 | -0.681 | 2.307 | 4.69 | -0.702 | 2.381 |
| 3 | 0.104 | 4.70 | -0.757 | 2.563 | 4.69 | -0.817 | 2.773 |
| 3 | 0.144 | 4.70 | -0.733 | 2.483 | 4.68 | -0.776 | 2.637 |
| 4 | 0.104 | 4.72 | -0.726 | 2.448 | 4.71 | -0.776 | 2.620 |
| 4 | 0.144 | 4.72 | -0.697 | 2.352 | 4.71 | -0.733 | 2.477 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|-----------|----------|----------|------------|----------|---------------|----------------|-------------|
| 42 | 0.0063 | 2.7 | -10.0 | 0.1 | 0.061212 | 0.000773 | 0.000058 |
| 9 | 0.00241 | 425.5 | 9.6 | -0.0 | 0.010868 | -0.000120 | 0.004549 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.68 | -0.895 | 3.039 | 4.66 | -0.877 | 2.990 |
| 1 | 0.144 | 4.68 | -0.875 | 2.973 | 4.66 | -0.842 | 2.876 |
| 2 | 0.104 | 4.65 | -0.822 | 2.811 | 4.64 | -0.777 | 2.665 |
| 2 | 0.144 | 4.65 | -0.793 | 2.713 | 4.64 | -0.747 | 2.561 |
| 3 | 0.104 | 4.67 | -0.928 | 3.164 | 4.64 | -0.911 | 3.124 |
| 3 | 0.144 | 4.66 | -0.897 | 3.059 | 4.64 | -0.876 | 3.008 |
| 4 | 0.104 | 4.67 | -0.901 | 3.070 | 4.65 | -0.868 | 2.967 |
| 4 | 0.144 | 4.67 | -0.871 | 2.971 | 4.65 | -0.830 | 2.839 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.66 | -0.760 | 2.594 | 4.65 | -0.826 | 2.822 |
| 1 | 0.144 | 4.65 | -0.737 | 2.522 | 4.65 | -0.794 | 2.717 |
| 2 | 0.104 | 4.65 | -0.763 | 2.609 | 4.64 | -0.832 | 2.851 |
| 2 | 0.144 | 4.65 | -0.731 | 2.500 | 4.64 | -0.790 | 2.709 |
| 3 | 0.104 | 4.63 | -0.801 | 2.750 | 4.64 | -0.893 | 3.065 |
| 3 | 0.144 | 4.63 | -0.770 | 2.647 | 4.63 | -0.838 | 2.879 |
| 4 | 0.104 | 4.66 | -0.869 | 2.969 | 4.66 | -0.969 | 3.311 |
| 4 | 0.144 | 4.65 | -0.851 | 2.909 | 4.65 | -0.930 | 3.181 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.69 | -0.763 | 2.587 | 4.67 | -0.776 | 2.645 |
| 1 | 0.144 | 4.69 | -0.736 | 2.497 | 4.66 | -0.746 | 2.545 |
| 2 | 0.104 | 4.66 | -0.772 | 2.634 | 4.65 | -0.711 | 2.432 |
| 2 | 0.144 | 4.66 | -0.734 | 2.506 | 4.65 | -0.679 | 2.325 |
| 3 | 0.104 | 4.67 | -0.868 | 2.955 | 4.64 | -0.865 | 2.964 |
| 3 | 0.144 | 4.67 | -0.816 | 2.782 | 4.64 | -0.814 | 2.789 |
| 4 | 0.104 | 4.66 | -0.875 | 2.987 | 4.65 | -0.817 | 2.797 |
| 4 | 0.144 | 4.66 | -0.825 | 2.816 | 4.65 | -0.769 | 2.635 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRHS/CMXHS/S | CMYH/CP/S |
|-----------|----------|----------|------------|----------|---------------|---------------|-----------|
| 42 | 0.0064 | 2.7 | -10.0 | 0.0 | 0.062859 | 0.000572 | -0.000082 |
| 10 | 0.002408 | 424.4 | 10.0 | -0.2 | 0.011236 | -0.000850 | 0.004882 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.66 | -0.825 | 2.820 | 4.65 | -0.899 | 3.075 |
| 1 | 0.144 | 4.65 | -0.812 | 2.776 | 4.64 | -0.854 | 2.926 |
| 2 | 0.104 | 4.64 | -0.836 | 2.867 | 4.62 | -0.824 | 2.836 |
| 2 | 0.144 | 4.64 | -0.814 | 2.794 | 4.62 | -0.797 | 2.741 |
| 3 | 0.104 | 4.65 | -0.901 | 3.083 | 4.63 | -0.964 | 3.314 |
| 3 | 0.144 | 4.64 | -0.873 | 2.989 | 4.62 | -0.884 | 3.045 |
| 4 | 0.104 | 4.64 | -0.994 | 3.403 | 4.63 | -0.980 | 3.369 |
| 4 | 0.144 | 4.64 | -0.959 | 3.285 | 4.63 | -0.922 | 3.170 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.66 | -0.782 | 2.671 | 4.64 | -0.741 | 2.542 |
| 1 | 0.144 | 4.65 | -0.767 | 2.622 | 4.64 | -0.717 | 2.461 |
| 2 | 0.104 | 4.65 | -0.795 | 2.722 | 4.63 | -0.766 | 2.634 |
| 2 | 0.144 | 4.65 | -0.762 | 2.606 | 4.63 | -0.732 | 2.519 |
| 3 | 0.104 | 4.63 | -0.860 | 2.956 | 4.61 | -0.719 | 2.482 |
| 3 | 0.144 | 4.62 | -0.824 | 2.837 | 4.61 | -0.694 | 2.399 |
| 4 | 0.104 | 4.66 | -0.914 | 3.119 | 4.63 | -0.857 | 2.944 |
| 4 | 0.144 | 4.66 | -0.885 | 3.023 | 4.63 | -0.823 | 2.828 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.64 | -0.710 | 2.432 | 4.64 | -0.729 | 2.503 |
| 1 | 0.144 | 4.64 | -0.690 | 2.368 | 4.63 | -0.705 | 2.419 |
| 2 | 0.104 | 4.63 | -0.722 | 2.478 | 4.62 | -0.754 | 2.596 |
| 2 | 0.144 | 4.63 | -0.683 | 2.345 | 4.62 | -0.715 | 2.462 |
| 3 | 0.104 | 4.63 | -0.688 | 2.368 | 4.61 | -0.747 | 2.574 |
| 3 | 0.144 | 4.62 | -0.664 | 2.284 | 4.61 | -0.715 | 2.465 |
| 4 | 0.104 | 4.64 | -0.763 | 2.617 | 4.63 | -0.849 | 2.917 |
| 4 | 0.144 | 4.64 | -0.728 | 2.496 | 4.63 | -0.796 | 2.736 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/S CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|--------------|-------------|-------------|---------------|------------|--------------------|-------------------|----------------|
| 11 | 0.0064 | 2.7 | -10.0 | -0.0 | 0.063000 | 0.000188 | -0.000067 |
| 9 | 0.002398 | 425.1 | 9.6 | -0.0 | 0.011684 | -0.001152 | 0.004648 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.73 | -0.978 | 3.288 | 4.72 | -1.011 | 3.409 |
| 1 | 0.144 | 4.72 | -0.941 | 3.168 | 4.71 | -0.958 | 3.238 |
| 2 | 0.104 | 4.74 | -0.978 | 3.284 | 4.71 | -0.993 | 3.356 |
| 2 | 0.144 | 4.73 | -0.953 | 3.203 | 4.70 | -0.955 | 3.229 |
| 3 | 0.104 | 4.74 | -0.960 | 3.225 | 4.70 | -1.132 | 3.832 |
| 3 | 0.144 | 4.73 | -0.911 | 3.066 | 4.70 | -1.049 | 3.555 |
| 4 | 0.104 | 4.75 | -0.975 | 3.262 | 4.72 | -1.043 | 3.510 |
| 4 | 0.144 | 4.75 | -0.936 | 3.134 | 4.72 | -0.998 | 3.360 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.75 | -1.016 | 3.406 | 4.73 | -0.964 | 3.242 |
| 1 | 0.144 | 4.75 | -1.013 | 3.394 | 4.72 | -0.952 | 3.207 |
| 2 | 0.104 | 4.70 | -1.035 | 3.504 | 4.69 | -0.911 | 3.090 |
| 2 | 0.144 | 4.70 | -1.040 | 3.519 | 4.69 | -0.904 | 3.066 |
| 3 | 0.104 | 4.73 | -1.168 | 3.930 | 4.71 | -1.103 | 3.729 |
| 3 | 0.144 | 4.72 | -1.148 | 3.867 | 4.70 | -1.039 | 3.518 |
| 4 | 0.104 | 4.74 | -1.220 | 4.092 | 4.72 | -1.153 | 3.887 |
| 4 | 0.144 | 4.74 | -1.214 | 4.071 | 4.72 | -1.116 | 3.760 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.74 | -0.823 | 2.760 | 4.72 | -0.943 | 3.178 |
| 1 | 0.144 | 4.74 | -0.794 | 2.668 | 4.71 | -0.896 | 3.024 |
| 2 | 0.104 | 4.74 | -0.818 | 2.744 | 4.72 | -0.823 | 2.772 |
| 2 | 0.144 | 4.74 | -0.804 | 2.698 | 4.72 | -0.803 | 2.706 |
| 3 | 0.104 | 4.73 | -0.894 | 3.004 | 4.70 | -0.917 | 3.099 |
| 3 | 0.144 | 4.73 | -0.876 | 2.946 | 4.70 | -0.898 | 3.039 |
| 4 | 0.104 | 4.74 | -0.837 | 2.806 | 4.73 | -0.868 | 2.918 |
| 4 | 0.144 | 4.74 | -0.809 | 2.714 | 4.73 | -0.843 | 2.835 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|-----------|----------|----------|------------|----------|---------------|----------------|-------------|
| 11 | 0.0064 | 2.7 | -10.0 | -0.0 | 0.063000 | 0.000188 | -0.000067 |
| 9 | 0.002398 | 425.1 | 9.6 | -0.0 | 0.011684 | -0.001152 | 0.004648 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.80 | -0.822 | 2.725 | 4.76 | -0.921 | 3.082 |
| 1 | 0.144 | 4.74 | -0.796 | 2.672 | 4.75 | -0.875 | 2.931 |
| 2 | 0.104 | 4.74 | -1.107 | 3.720 | 4.72 | -1.159 | 3.905 |
| 2 | 0.144 | 4.73 | -1.075 | 3.613 | 4.72 | -1.122 | 3.782 |
| 3 | 0.104 | 4.77 | -0.895 | 2.984 | 4.75 | -1.064 | 3.565 |
| 3 | 0.144 | 4.76 | -0.871 | 2.912 | 4.74 | -1.024 | 3.439 |
| 4 | 0.104 | 4.78 | -1.122 | 3.733 | 4.76 | -1.223 | 4.086 |
| 4 | 0.144 | 4.78 | -1.063 | 3.538 | 4.76 | -1.164 | 3.893 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 42 | 0.0134 | 5.7 | -10.0 | 0.0 | 0.068498 | 0.000474 | -0.000408 |
| 11 | 0.002406 | 423.5 | 10.5 | 0.0 | 0.012473 | -0.001146 | 0.005394 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.64 | -0.906 | 3.108 | 4.64 | -1.012 | 3.472 |
| 1 | 0.144 | 4.63 | -0.875 | 3.003 | 4.63 | -0.960 | 3.297 |
| 2 | 0.104 | 4.64 | -0.765 | 2.626 | 4.64 | -0.876 | 3.001 |
| 2 | 0.144 | 4.64 | -0.737 | 2.529 | 4.64 | -0.830 | 2.843 |
| 3 | 0.104 | 4.62 | -0.857 | 2.948 | 4.62 | -1.020 | 3.511 |
| 3 | 0.144 | 4.62 | -0.841 | 2.897 | 4.62 | -0.972 | 3.349 |
| 4 | 0.104 | 4.64 | -0.842 | 2.888 | 4.64 | -1.010 | 3.462 |
| 4 | 0.144 | 4.64 | -0.816 | 2.800 | 4.63 | -0.950 | 3.262 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 42 | 0.0134 | 5.7 | -10.0 | 0.0 | 0.068498 | 0.000474 | -0.000408 |
| 11 | 0.002406 | 423.5 | 10.5 | 0.0 | 0.012473 | -0.001146 | 0.005394 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.64 | -1.046 | 3.582 | 4.63 | -1.068 | 3.673 |
| 1 | 0.144 | 4.64 | -0.994 | 3.406 | 4.62 | -0.995 | 3.424 |
| 2 | 0.104 | 4.63 | -0.946 | 3.250 | 4.62 | -0.990 | 3.408 |
| 2 | 0.144 | 4.63 | -0.906 | 3.113 | 4.62 | -0.936 | 3.220 |
| 3 | 0.104 | 4.61 | -1.168 | 4.034 | 4.60 | -1.185 | 4.100 |
| 3 | 0.144 | 4.60 | -1.130 | 3.909 | 4.59 | -1.128 | 3.912 |
| 4 | 0.104 | 4.65 | -1.052 | 3.599 | 4.63 | -1.139 | 3.911 |
| 4 | 0.144 | 4.65 | -1.000 | 3.424 | 4.62 | -1.040 | 3.578 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|-----------|----------|----------|------------|----------|---------------|----------------|-------------|
| 42 | 0.0134 | 5.7 | -10.0 | 0.0 | 0.068498 | 0.000474 | -0.000408 |
| 11 | 0.002406 | 423.5 | 10.5 | 0.0 | 0.012473 | -0.001146 | 0.005394 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.62 | -0.795 | 2.739 | 4.61 | -0.900 | 3.106 |
| 1 | 0.144 | 4.61 | -0.750 | 2.587 | 4.61 | -0.836 | 2.887 |
| 2 | 0.104 | 4.62 | -0.709 | 2.444 | 4.61 | -0.827 | 2.858 |
| 2 | 0.144 | 4.62 | -0.676 | 2.330 | 4.60 | -0.787 | 2.719 |
| 3 | 0.104 | 4.60 | -0.758 | 2.622 | 4.58 | -0.888 | 3.085 |
| 3 | 0.144 | 4.59 | -0.735 | 2.545 | 4.58 | -0.852 | 2.960 |
| 4 | 0.104 | 4.62 | -0.737 | 2.537 | 4.60 | -0.910 | 3.144 |
| 4 | 0.144 | 4.62 | -0.711 | 2.452 | 4.60 | -0.852 | 2.948 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 42 | 0.015 | 6.4 | -10.0 | -0.0 | 0.074779 | 0.000510 | -0.000440 |
| 12 | 0.002406 | 425.2 | 11.1 | 0.0 | 0.013607 | -0.001064 | 0.005989 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.62 | -1.061 | 3.654 | 4.60 | -0.877 | 3.033 |
| 1 | 0.144 | 4.61 | -1.010 | 3.482 | 4.60 | -0.832 | 2.881 |
| 2 | 0.104 | 4.63 | -0.884 | 3.037 | 4.61 | -0.823 | 2.839 |
| 2 | 0.144 | 4.63 | -0.850 | 2.924 | 4.61 | -0.802 | 2.769 |
| 3 | 0.104 | 4.62 | -1.073 | 3.697 | 4.59 | -0.892 | 3.091 |
| 3 | 0.144 | 4.61 | -0.995 | 3.433 | 4.59 | -0.854 | 2.961 |
| 4 | 0.104 | 4.63 | -1.112 | 3.818 | 4.62 | -0.972 | 3.351 |
| 4 | 0.144 | 4.63 | -1.068 | 3.668 | 4.61 | -0.928 | 3.200 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 42 | 0.015 | 6.4 | -10.0 | -0.0 | 0.074779 | 0.000510 | -0.000440 |
| 12 | 0.002406 | 425.2 | 11.1 | 0.0 | 0.013607 | -0.001064 | 0.005989 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.61 | -0.937 | 3.238 | 4.59 | -0.992 | 3.436 |
| 1 | 0.144 | 4.60 | -0.907 | 3.136 | 4.59 | -0.962 | 3.333 |
| 2 | 0.104 | 4.61 | -0.877 | 3.028 | 4.58 | -0.952 | 3.302 |
| 2 | 0.144 | 4.61 | -0.854 | 2.949 | 4.58 | -0.913 | 3.168 |
| 3 | 0.104 | 4.59 | -0.949 | 3.288 | 4.56 | -1.022 | 3.560 |
| 3 | 0.144 | 4.59 | -0.912 | 3.164 | 4.56 | -0.966 | 3.367 |
| 4 | 0.104 | 4.60 | -1.015 | 3.506 | 4.58 | -1.100 | 3.822 |
| 4 | 0.144 | 4.60 | -0.969 | 3.352 | 4.57 | -1.047 | 3.640 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|-----------|----------|----------|------------|----------|---------------|----------------|-------------|
| 42 | 0.015 | 6.4 | -10.0 | -0.0 | 0.074779 | 0.000510 | -0.000440 |
| 12 | 0.002406 | 425.2 | 11.1 | 0.0 | 0.013607 | -0.001064 | 0.005989 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.60 | -1.104 | 3.819 | 4.59 | -1.105 | 3.826 |
| 1 | 0.144 | 4.59 | -1.060 | 3.669 | 4.59 | -1.041 | 3.608 |
| 2 | 0.104 | 4.59 | -0.874 | 3.028 | 4.59 | -0.872 | 3.020 |
| 2 | 0.144 | 4.59 | -0.834 | 2.891 | 4.59 | -0.826 | 2.864 |
| 3 | 0.104 | 4.56 | -0.953 | 3.322 | 4.57 | -0.952 | 3.312 |
| 3 | 0.144 | 4.56 | -0.921 | 3.212 | 4.57 | -0.897 | 3.125 |
| 4 | 0.104 | 4.58 | -1.015 | 3.525 | 4.59 | -1.043 | 3.618 |
| 4 | 0.144 | 4.58 | -0.975 | 3.391 | 4.58 | -0.968 | 3.363 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.60 | -1.063 | 3.678 | 4.57 | -1.221 | 4.248 |
| 1 | 0.144 | 4.59 | -1.042 | 3.605 | 4.57 | -1.206 | 4.199 |
| 2 | 0.104 | 4.61 | -1.020 | 3.522 | 4.57 | -1.140 | 3.971 |
| 2 | 0.144 | 4.61 | -0.988 | 3.410 | 4.57 | -1.111 | 3.868 |
| 3 | 0.104 | 4.62 | -1.068 | 3.678 | 4.56 | -1.119 | 3.906 |
| 3 | 0.144 | 4.61 | -1.009 | 3.480 | 4.55 | -1.222 | 4.268 |
| 4 | 0.104 | 4.60 | -1.102 | 3.814 | 4.55 | -1.294 | 4.522 |
| 4 | 0.144 | 4.59 | -1.077 | 3.731 | 4.55 | -1.262 | 4.414 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.63 | -1.027 | 3.531 | 4.60 | -1.305 | 4.511 |
| 1 | 0.144 | 4.63 | -1.030 | 3.541 | 4.60 | -1.264 | 4.374 |
| 2 | 0.104 | 4.59 | -1.140 | 3.946 | 4.57 | -1.170 | 4.069 |
| 2 | 0.144 | 4.59 | -1.135 | 3.930 | 4.57 | -1.148 | 3.991 |
| 3 | 0.104 | 4.59 | -1.197 | 4.146 | 4.56 | -1.367 | 4.769 |
| 3 | 0.144 | 4.59 | -1.169 | 4.050 | 4.55 | -1.304 | 4.553 |
| 4 | 0.104 | 4.59 | -1.059 | 3.670 | 4.57 | -1.221 | 4.250 |
| 4 | 0.144 | 4.60 | -1.118 | 3.866 | 4.56 | -1.221 | 4.262 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|-----------|----------|----------|------------|----------|---------------|----------------|-------------|
| 42 | 0.009 | 3.8 | -10.0 | -0.0 | 0.078530 | 0.000357 | 0.000024 |
| 13 | 0.002405 | 424.3 | 11.5 | 0.0 | 0.014125 | -0.001521 | 0.006413 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.57 | -1.202 | 4.185 | 4.57 | -1.137 | 3.955 |
| 1 | 0.144 | 4.57 | -1.180 | 4.110 | 4.57 | -1.099 | 3.829 |
| 2 | 0.104 | 4.59 | -1.041 | 3.611 | 4.58 | -1.043 | 3.623 |
| 2 | 0.144 | 4.59 | -1.014 | 3.517 | 4.58 | -1.017 | 3.537 |
| 3 | 0.104 | 4.55 | -1.107 | 3.868 | 4.55 | -1.081 | 3.778 |
| 3 | 0.144 | 4.55 | -1.048 | 3.666 | 4.55 | -1.040 | 3.639 |
| 4 | 0.104 | 4.56 | -1.229 | 4.286 | 4.57 | -1.226 | 4.271 |
| 4 | 0.144 | 4.56 | -1.192 | 4.161 | 4.56 | -1.151 | 4.019 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 11 | 0.004 | 1.7 | -10.0 | -0.0 | 0.084655 | 0.000028 | -0.000548 |
| 10 | 0.002414 | 424.9 | 11.7 | -0.0 | 0.015678 | -0.001918 | 0.006813 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.66 | -1.236 | 4.220 | 4.66 | -1.056 | 3.608 |
| 1 | 0.144 | 4.65 | -1.224 | 4.186 | 4.65 | -1.058 | 3.616 |
| 2 | 0.104 | 4.65 | -1.174 | 4.020 | 4.66 | -1.092 | 3.726 |
| 2 | 0.144 | 4.65 | -1.155 | 3.950 | 4.66 | -1.075 | 3.673 |
| 3 | 0.104 | 4.67 | -1.065 | 3.630 | 4.67 | -1.069 | 3.638 |
| 3 | 0.144 | 4.67 | -1.101 | 3.752 | 4.66 | -1.067 | 3.646 |
| 4 | 0.104 | 4.70 | -1.445 | 4.885 | 4.66 | -1.372 | 4.685 |
| 4 | 0.144 | 4.70 | -1.466 | 4.964 | 4.66 | -1.344 | 4.584 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 11 | 0.004 | 1.7 | -10.0 | -0.0 | 0.084655 | 0.000028 | -0.000548 |
| 10 | 0.002414 | 424.9 | 11.7 | -0.0 | 0.015678 | -0.001918 | 0.006813 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.65 | -1.237 | 4.234 | 4.63 | -1.281 | 4.396 |
| 1 | 0.144 | 4.64 | -1.191 | 4.080 | 4.62 | -1.238 | 4.264 |
| 2 | 0.104 | 4.61 | -1.280 | 4.411 | 4.61 | -1.202 | 4.142 |
| 2 | 0.144 | 4.61 | -1.270 | 4.377 | 4.59 | -1.127 | 3.901 |
| 3 | 0.104 | 4.61 | -1.414 | 4.879 | 4.61 | -1.510 | 5.202 |
| 3 | 0.144 | 4.59 | -1.349 | 4.673 | 4.60 | -1.428 | 4.935 |
| 4 | 0.104 | 4.64 | -1.458 | 5.001 | 4.62 | -1.484 | 5.101 |
| 4 | 0.144 | 4.63 | -1.419 | 4.871 | 4.62 | -1.469 | 5.053 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|-----------|----------|----------|------------|----------|---------------|----------------|-------------|
| 11 | 0.004 | 1.7 | -10.0 | -0.0 | 0.084655 | 0.000028 | -0.000548 |
| 10 | 0.002414 | 424.9 | 11.7 | -0.0 | 0.015678 | -0.001918 | 0.006813 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.61 | -0.724 | 2.499 | 4.62 | -1.008 | 3.470 |
| 1 | 0.144 | 4.61 | -0.731 | 2.522 | 4.62 | -0.991 | 3.414 |
| 2 | 0.104 | 4.60 | -0.880 | 3.041 | 4.59 | -1.054 | 3.648 |
| 2 | 0.144 | 4.60 | -0.894 | 3.094 | 4.59 | -1.085 | 3.760 |
| 3 | 0.104 | 4.54 | -1.080 | 3.787 | 4.58 | -1.101 | 3.824 |
| 3 | 0.144 | 4.53 | -1.012 | 3.557 | 4.55 | -1.088 | 3.802 |
| 4 | 0.104 | 4.56 | -1.146 | 3.995 | 4.60 | -1.336 | 4.616 |
| 4 | 0.144 | 4.56 | -0.945 | 3.297 | 4.60 | -1.294 | 4.472 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 11 | 0.004 | 1.7 | -10.0 | -0.0 | 0.084655 | 0.000028 | -0.000548 |
| 10 | 0.002414 | 424.9 | 11.7 | -0.0 | 0.015678 | -0.001918 | 0.006813 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.62 | -1.173 | 4.040 | 4.63 | -1.407 | 4.831 |
| 1 | 0.144 | 4.61 | -1.156 | 3.989 | 4.61 | -1.408 | 4.850 |
| 2 | 0.104 | 4.57 | -1.084 | 3.769 | 4.58 | -1.188 | 4.130 |
| 2 | 0.144 | 4.57 | -1.078 | 3.747 | 4.57 | -1.189 | 4.133 |
| 3 | 0.104 | 4.61 | -1.492 | 5.149 | 4.58 | -1.626 | 5.644 |
| 3 | 0.144 | 4.58 | -1.439 | 4.990 | 4.57 | -1.594 | 5.545 |
| 4 | 0.104 | 4.58 | -1.252 | 4.350 | 4.57 | -1.427 | 4.964 |
| 4 | 0.144 | 4.57 | -1.201 | 4.180 | 4.57 | -1.398 | 4.869 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 42 | 0.0145 | 6.2 | -10.0 | 0.2 | 0.088956 | 0.000741 | 0.000155 |
| 14 | 0.002405 | 424.9 | 12.6 | -0.0 | 0.015955 | -0.001252 | 0.007642 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.58 | -1.353 | 4.698 | 4.56 | -1.398 | 4.877 |
| 1 | 0.144 | 4.57 | -1.327 | 4.611 | 4.55 | -1.367 | 4.771 |
| 2 | 0.104 | 4.57 | -1.299 | 4.517 | 4.54 | -1.351 | 4.735 |
| 2 | 0.144 | 4.58 | -1.257 | 4.369 | 4.53 | -1.280 | 4.488 |
| 3 | 0.104 | 4.56 | -1.536 | 5.352 | 4.52 | -1.467 | 5.158 |
| 3 | 0.144 | 4.56 | -1.489 | 5.193 | 4.50 | -1.438 | 5.076 |
| 4 | 0.104 | 4.54 | -1.706 | 5.974 | 4.52 | -1.479 | 5.202 |
| 4 | 0.144 | 4.53 | -1.687 | 5.913 | 4.51 | -1.442 | 5.080 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/S CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|-----------|----------|----------|------------|----------|-----------------|----------------|-------------|
| 42 | 0.0145 | 6.2 | -10.0 | 0.2 | 0.088956 | 0.000741 | 0.000155 |
| 14 | 0.002405 | 424.9 | 12.6 | -0.0 | 0.015955 | -0.001252 | 0.007642 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.56 | -2.000 | 6.960 | 4.55 | -1.512 | 5.284 |
| 1 | 0.144 | 4.56 | -1.998 | 6.953 | 4.54 | -1.478 | 5.171 |
| 2 | 0.104 | 4.60 | -1.725 | 5.959 | 4.55 | -1.464 | 5.110 |
| 2 | 0.144 | 4.60 | -1.722 | 5.948 | 4.55 | -1.439 | 5.023 |
| 3 | 0.104 | 4.62 | -1.448 | 4.984 | 4.55 | -1.450 | 5.063 |
| 3 | 0.144 | 4.61 | -1.438 | 4.955 | 4.55 | -1.410 | 4.929 |
| 4 | 0.104 | 4.58 | -1.811 | 6.279 | 4.51 | -1.616 | 5.693 |
| 4 | 0.144 | 4.58 | -1.826 | 6.328 | 4.51 | -1.581 | 5.572 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/S CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 42 | 0.0145 | 6.2 | -10.0 | 0.2 | 0.088956 | 0.000741 | 0.000155 |
| 14 | 0.002405 | 424.9 | 12.6 | -0.0 | 0.015955 | -0.001252 | 0.007642 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.57 | -1.281 | 4.457 | 4.57 | -1.308 | 4.548 |
| 1 | 0.144 | 4.57 | -1.239 | 4.312 | 4.57 | -1.226 | 4.267 |
| 2 | 0.104 | 4.58 | -1.214 | 4.215 | 4.57 | -1.211 | 4.209 |
| 2 | 0.144 | 4.57 | -1.164 | 4.045 | 4.57 | -1.190 | 4.135 |
| 3 | 0.104 | 4.55 | -1.283 | 4.487 | 4.55 | -1.331 | 4.648 |
| 3 | 0.144 | 4.54 | -1.244 | 4.354 | 4.55 | -1.252 | 4.380 |
| 4 | 0.104 | 4.56 | -1.322 | 4.609 | 4.55 | -1.487 | 5.191 |
| 4 | 0.144 | 4.56 | -1.278 | 4.458 | 4.55 | -1.412 | 4.931 |

Appendix B

Forward Flight Performance and Aeroelastic Stability Data

Performance and aeroelastic stability data for forward flight test conditions with minimized flapping trim are presented in the following tables. Data are grouped in

terms of shaft angles-of-attack, increasing rotor lift, and increasing tunnel velocity. The repeat stability measurements that were acquired at each test condition have the same run and point nomenclature for easy identification. The rotor control positions presented in these tables are based on the fixed-system actuator positions. No wall corrections were applied to the rotor performance data in this Appendix.

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/S CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|--------------|-------------|-------------|---------------|------------|--------------------|-------------------|----------------|
| 28 | 0.0456 | 19.4 | 0.0 | -2.6 | 0.068156 | -0.001349 | -0.000214 |
| 15 | 0.002336 | 425.3 | 8.8 | 1.2 | -0.000726 | 0.000086 | 0.003783 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.60 | -0.817 | 2.829 | 4.60 | -0.771 | 2.663 |
| 1 | 0.144 | 4.59 | -0.804 | 2.783 | 4.60 | -0.743 | 2.570 |
| 2 | 0.104 | 4.62 | -0.705 | 2.429 | 4.61 | -0.782 | 2.702 |
| 2 | 0.144 | 4.61 | -0.692 | 2.384 | 4.61 | -0.752 | 2.597 |
| 3 | 0.104 | 4.59 | -0.855 | 2.965 | 4.59 | -0.804 | 2.790 |
| 3 | 0.144 | 4.59 | -0.843 | 2.922 | 4.58 | -0.781 | 2.714 |
| 4 | 0.104 | 4.62 | -0.785 | 2.702 | 4.62 | -0.841 | 2.895 |
| 4 | 0.144 | 4.62 | -0.772 | 2.659 | 4.62 | -0.810 | 2.790 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.62 | -0.811 | 2.792 | 4.62 | -0.827 | 2.849 |
| 1 | 0.144 | 4.62 | -0.781 | 2.693 | 4.61 | -0.777 | 2.680 |
| 2 | 0.104 | 4.61 | -0.837 | 2.885 | 4.61 | -0.858 | 2.965 |
| 2 | 0.144 | 4.61 | -0.824 | 2.842 | 4.60 | -0.840 | 2.903 |
| 3 | 0.104 | 4.61 | -0.978 | 3.376 | 4.60 | -0.986 | 3.413 |
| 3 | 0.144 | 4.60 | -0.946 | 3.270 | 4.59 | -0.934 | 3.238 |
| 4 | 0.104 | 4.64 | -0.966 | 3.313 | 4.63 | -0.999 | 3.435 |
| 4 | 0.144 | 4.64 | -0.941 | 3.227 | 4.62 | -0.957 | 3.293 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.62 | -0.799 | 2.752 | 4.61 | -0.775 | 2.673 |
| 1 | 0.144 | 4.62 | -0.771 | 2.657 | 4.61 | -0.736 | 2.541 |
| 2 | 0.104 | 4.62 | -0.820 | 2.823 | 4.61 | -0.854 | 2.949 |
| 2 | 0.144 | 4.62 | -0.803 | 2.768 | 4.61 | -0.825 | 2.848 |
| 3 | 0.104 | 4.59 | -0.965 | 3.341 | 4.59 | -0.914 | 3.164 |
| 3 | 0.144 | 4.59 | -0.938 | 3.253 | 4.59 | -0.875 | 3.036 |
| 4 | 0.104 | 4.64 | -0.949 | 3.250 | 4.63 | -0.998 | 3.429 |
| 4 | 0.144 | 4.64 | -0.921 | 3.155 | 4.62 | -0.947 | 3.256 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRHS/CMXHS/S | CMYH/CP/S |
|-----------|----------|----------|------------|----------|---------------|---------------|-----------|
| 28 | 0.071 | 30.2 | 0.0 | -3.0 | 0.067748 | -0.001482 | -0.000404 |
| 19 | 0.00233 | 425.1 | 8.2 | 1.4 | -0.000767 | -0.000137 | 0.003333 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.61 | -0.713 | 2.462 | 4.61 | -0.685 | 2.368 |
| 1 | 0.144 | 4.61 | -0.687 | 2.370 | 4.60 | -0.648 | 2.243 |
| 2 | 0.104 | 4.60 | -0.716 | 2.479 | 4.60 | -0.716 | 2.478 |
| 2 | 0.144 | 4.60 | -0.710 | 2.456 | 4.60 | -0.700 | 2.422 |
| 3 | 0.104 | 4.59 | -0.792 | 2.746 | 4.59 | -0.775 | 2.687 |
| 3 | 0.144 | 4.59 | -0.775 | 2.690 | 4.58 | -0.751 | 2.606 |
| 4 | 0.104 | 4.62 | -0.773 | 2.660 | 4.62 | -0.802 | 2.762 |
| 4 | 0.144 | 4.62 | -0.760 | 2.617 | 4.61 | -0.776 | 2.675 |
| Blade no. | r/R | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRHS/CMXHS/S | CMYH/CP/S |
| 28 | 0.071 | 30.2 | 0.0 | -3.0 | 0.067748 | -0.001482 | -0.000404 |
| 19 | 0.00233 | 425.1 | 8.2 | 1.4 | -0.000767 | -0.000137 | 0.003333 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.61 | -0.679 | 2.345 | 4.61 | -0.672 | 2.320 |
| 1 | 0.144 | 4.61 | -0.656 | 2.267 | 4.60 | -0.638 | 2.206 |
| 2 | 0.104 | 4.60 | -0.733 | 2.535 | 4.60 | -0.715 | 2.474 |
| 2 | 0.144 | 4.60 | -0.727 | 2.514 | 4.59 | -0.701 | 2.428 |
| 3 | 0.104 | 4.59 | -0.790 | 2.740 | 4.59 | -0.775 | 2.686 |
| 3 | 0.144 | 4.59 | -0.778 | 2.701 | 4.59 | -0.744 | 2.584 |
| 4 | 0.104 | 4.62 | -0.788 | 2.713 | 4.61 | -0.807 | 2.784 |
| 4 | 0.144 | 4.62 | -0.774 | 2.666 | 4.61 | -0.782 | 2.696 |
| Blade no. | r/R | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRHS/CMXHS/S | CMYH/CP/S |
| 28 | 0.071 | 30.2 | 0.0 | -3.0 | 0.067748 | -0.001482 | -0.000404 |
| 19 | 0.00233 | 425.1 | 8.2 | 1.4 | -0.000767 | -0.000137 | 0.003333 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.61 | -0.662 | 2.288 | 4.61 | -0.616 | 2.127 |
| 1 | 0.144 | 4.61 | -0.646 | 2.233 | 4.60 | -0.594 | 2.052 |
| 2 | 0.104 | 4.60 | -0.706 | 2.438 | 4.60 | -0.719 | 2.485 |
| 2 | 0.144 | 4.61 | -0.699 | 2.417 | 4.60 | -0.702 | 2.428 |
| 3 | 0.104 | 4.59 | -0.761 | 2.638 | 4.59 | -0.724 | 2.509 |
| 3 | 0.144 | 4.59 | -0.752 | 2.607 | 4.59 | -0.717 | 2.488 |
| 4 | 0.104 | 4.63 | -0.791 | 2.718 | 4.62 | -0.822 | 2.833 |
| 4 | 0.144 | 4.63 | -0.783 | 2.692 | 4.61 | -0.797 | 2.748 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|-----------|----------|----------|------------|----------|---------------|----------------|-------------|
| 28 | 0.1056 | 44.9 | 0.0 | -2.2 | 0.068396 | -0.000924 | -0.000187 |
| 23 | 0.002326 | 424.7 | 7.3 | 1.5 | -0.000827 | 0.000080 | 0.002600 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.65 | -0.594 | 2.031 | 4.65 | -0.610 | 2.090 |
| 1 | 0.144 | 4.65 | -0.568 | 1.942 | 4.64 | -0.573 | 1.964 |
| 2 | 0.104 | 4.64 | -0.665 | 2.281 | 4.63 | -0.658 | 2.258 |
| 2 | 0.144 | 4.64 | -0.656 | 2.250 | 4.63 | -0.644 | 2.213 |
| 3 | 0.104 | 4.64 | -0.755 | 2.588 | 4.64 | -0.741 | 2.541 |
| 3 | 0.144 | 4.64 | -0.730 | 2.504 | 4.63 | -0.718 | 2.466 |
| 4 | 0.104 | 4.66 | -0.693 | 2.364 | 4.66 | -0.704 | 2.404 |
| 4 | 0.144 | 4.66 | -0.672 | 2.294 | 4.66 | -0.672 | 2.296 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 28 | 0.1056 | 44.9 | 0.0 | -2.2 | 0.068396 | -0.000924 | -0.000187 |
| 23 | 0.002326 | 424.7 | 7.3 | 1.5 | -0.000827 | 0.000080 | 0.002600 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.66 | -0.561 | 1.914 | 4.66 | -0.580 | 1.982 |
| 1 | 0.144 | 4.66 | -0.537 | 1.834 | 4.65 | -0.552 | 1.886 |
| 2 | 0.104 | 4.66 | -0.713 | 2.436 | 4.64 | -0.719 | 2.463 |
| 2 | 0.144 | 4.66 | -0.693 | 2.366 | 4.64 | -0.695 | 2.380 |
| 3 | 0.104 | 4.66 | -0.705 | 2.409 | 4.65 | -0.703 | 2.407 |
| 3 | 0.144 | 4.66 | -0.681 | 2.327 | 4.65 | -0.671 | 2.297 |
| 4 | 0.104 | 4.68 | -0.694 | 2.357 | 4.67 | -0.706 | 2.405 |
| 4 | 0.144 | 4.68 | -0.666 | 2.265 | 4.67 | -0.672 | 2.289 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 28 | 0.1056 | 44.9 | 0.0 | -2.2 | 0.068396 | -0.000924 | -0.000187 |
| 23 | 0.002326 | 424.7 | 7.3 | 1.5 | -0.000827 | 0.000080 | 0.002600 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.66 | -0.591 | 2.020 | 4.65 | -0.601 | 2.055 |
| 1 | 0.144 | 4.65 | -0.567 | 1.937 | 4.65 | -0.577 | 1.974 |
| 2 | 0.104 | 4.65 | -0.655 | 2.243 | 4.64 | -0.658 | 2.255 |
| 2 | 0.144 | 4.65 | -0.638 | 2.185 | 4.64 | -0.639 | 2.191 |
| 3 | 0.104 | 4.65 | -0.726 | 2.483 | 4.65 | -0.738 | 2.525 |
| 3 | 0.144 | 4.65 | -0.705 | 2.412 | 4.65 | -0.719 | 2.460 |
| 4 | 0.104 | 4.67 | -0.656 | 2.235 | 4.66 | -0.678 | 2.311 |
| 4 | 0.144 | 4.67 | -0.637 | 2.169 | 4.66 | -0.652 | 2.227 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|-----------|----------|----------|------------|----------|---------------|----------------|-------------|
| 28 | 0.1412 | 60.0 | 0.0 | -1.7 | 0.068855 | -0.000910 | 0.000022 |
| 27 | 0.002318 | 425.3 | 6.9 | 1.6 | -0.000920 | -0.000064 | 0.002258 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.68 | -0.510 | 1.736 | 4.67 | -0.531 | 1.810 |
| 1 | 0.144 | 4.68 | -0.491 | 1.670 | 4.67 | -0.512 | 1.744 |
| 2 | 0.104 | 4.66 | -0.580 | 1.981 | 4.66 | -0.601 | 2.054 |
| 2 | 0.144 | 4.66 | -0.564 | 1.926 | 4.66 | -0.584 | 1.996 |
| 3 | 0.104 | 4.67 | -0.677 | 2.306 | 4.66 | -0.696 | 2.375 |
| 3 | 0.144 | 4.67 | -0.655 | 2.230 | 4.66 | -0.682 | 2.327 |
| 4 | 0.104 | 4.69 | -0.572 | 1.942 | 4.68 | -0.585 | 1.988 |
| 4 | 0.144 | 4.69 | -0.553 | 1.877 | 4.68 | -0.559 | 1.901 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 28 | 0.1412 | 60.0 | 0.0 | -1.7 | 0.068855 | -0.000910 | 0.000022 |
| 27 | 0.002318 | 425.3 | 6.9 | 1.6 | -0.000920 | -0.000064 | 0.002258 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.70 | -0.514 | 1.741 | 4.69 | -0.524 | 1.778 |
| 1 | 0.144 | 4.70 | -0.499 | 1.691 | 4.69 | -0.506 | 1.717 |
| 2 | 0.104 | 4.67 | -0.573 | 1.952 | 4.67 | -0.566 | 1.927 |
| 2 | 0.144 | 4.67 | -0.569 | 1.938 | 4.67 | -0.557 | 1.898 |
| 3 | 0.104 | 4.69 | -0.712 | 2.418 | 4.69 | -0.720 | 2.444 |
| 3 | 0.144 | 4.69 | -0.690 | 2.342 | 4.68 | -0.694 | 2.356 |
| 4 | 0.104 | 4.70 | -0.597 | 2.018 | 4.70 | -0.624 | 2.114 |
| 4 | 0.144 | 4.70 | -0.577 | 1.953 | 4.70 | -0.595 | 2.014 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 28 | 0.1412 | 60.0 | 0.0 | -1.7 | 0.068855 | -0.000910 | 0.000022 |
| 27 | 0.002318 | 425.3 | 6.9 | 1.6 | -0.000920 | -0.000064 | 0.002258 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.70 | -0.470 | 1.590 | 4.70 | -0.473 | 1.603 |
| 1 | 0.144 | 4.70 | -0.458 | 1.549 | 4.70 | -0.458 | 1.552 |
| 2 | 0.104 | 4.69 | -0.521 | 1.768 | 4.69 | -0.535 | 1.816 |
| 2 | 0.144 | 4.69 | -0.516 | 1.750 | 4.69 | -0.525 | 1.784 |
| 3 | 0.104 | 4.69 | -0.681 | 2.310 | 4.69 | -0.677 | 2.297 |
| 3 | 0.144 | 4.69 | -0.665 | 2.258 | 4.68 | -0.654 | 2.220 |
| 4 | 0.104 | 4.72 | -0.552 | 1.864 | 4.71 | -0.555 | 1.875 |
| 4 | 0.144 | 4.72 | -0.539 | 1.819 | 4.71 | -0.537 | 1.813 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/S CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|--------------|-------------|-------------|---------------|------------|--------------------|-------------------|----------------|
| 28 | 0.1766 | 75.1 | 0.0 | -1.3 | 0.068103 | -0.000747 | -0.000028 |
| 28 | 0.002311 | 425.5 | 6.8 | 1.9 | -0.001011 | 0.000074 | 0.002089 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.70 | -0.491 | 1.663 | 4.69 | -0.503 | 1.708 |
| 1 | 0.144 | 4.70 | -0.483 | 1.637 | 4.69 | -0.482 | 1.637 |
| 2 | 0.104 | 4.68 | -0.543 | 1.845 | 4.68 | -0.538 | 1.831 |
| 2 | 0.144 | 4.68 | -0.525 | 1.786 | 4.68 | -0.517 | 1.759 |
| 3 | 0.104 | 4.69 | -0.683 | 2.316 | 4.68 | -0.683 | 2.318 |
| 3 | 0.144 | 4.69 | -0.658 | 2.233 | 4.68 | -0.645 | 2.190 |
| 4 | 0.104 | 4.71 | -0.564 | 1.908 | 4.70 | -0.592 | 2.006 |
| 4 | 0.144 | 4.70 | -0.544 | 1.838 | 4.70 | -0.562 | 1.902 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/S CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 28 | 0.1766 | 75.1 | 0.0 | -1.3 | 0.068103 | -0.000747 | -0.000028 |
| 28 | 0.002311 | 425.5 | 6.8 | 1.9 | -0.001011 | 0.000074 | 0.002089 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.70 | -0.436 | 1.477 | 4.70 | -0.443 | 1.501 |
| 1 | 0.144 | 4.70 | -0.429 | 1.454 | 4.70 | -0.433 | 1.466 |
| 2 | 0.104 | 4.68 | -0.479 | 1.627 | 4.68 | -0.465 | 1.582 |
| 2 | 0.144 | 4.68 | -0.473 | 1.609 | 4.68 | -0.461 | 1.567 |
| 3 | 0.104 | 4.69 | -0.633 | 2.150 | 4.68 | -0.619 | 2.105 |
| 3 | 0.144 | 4.69 | -0.624 | 2.117 | 4.68 | -0.604 | 2.053 |
| 4 | 0.104 | 4.71 | -0.555 | 1.877 | 4.70 | -0.557 | 1.884 |
| 4 | 0.144 | 4.71 | -0.547 | 1.848 | 4.70 | -0.543 | 1.838 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/S CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 28 | 0.1766 | 75.1 | 0.0 | -1.3 | 0.068103 | -0.000747 | -0.000028 |
| 28 | 0.002311 | 425.5 | 6.8 | 1.9 | -0.001011 | 0.000074 | 0.002089 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.70 | -0.509 | 1.724 | 4.69 | -0.533 | 1.807 |
| 1 | 0.144 | 4.70 | -0.501 | 1.697 | 4.69 | -0.510 | 1.732 |
| 2 | 0.104 | 4.68 | -0.561 | 1.908 | 4.68 | -0.554 | 1.887 |
| 2 | 0.144 | 4.68 | -0.551 | 1.873 | 4.68 | -0.543 | 1.847 |
| 3 | 0.104 | 4.69 | -0.734 | 2.490 | 4.68 | -0.724 | 2.459 |
| 3 | 0.144 | 4.69 | -0.715 | 2.428 | 4.68 | -0.700 | 2.379 |
| 4 | 0.104 | 4.71 | -0.572 | 1.932 | 4.71 | -0.574 | 1.940 |
| 4 | 0.144 | 4.71 | -0.551 | 1.863 | 4.70 | -0.555 | 1.878 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|-----------|----------|----------|------------|----------|---------------|----------------|-------------|
| 28 | 0.212 | 90.2 | 0.0 | -1.0 | 0.067513 | -0.000845 | -0.000044 |
| 29 | 0.002302 | 425.5 | 6.9 | 2.2 | -0.001191 | -0.000147 | 0.002024 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.70 | -0.440 | 1.488 | 4.70 | -0.477 | 1.617 |
| 1 | 0.144 | 4.70 | -0.428 | 1.448 | 4.70 | -0.463 | 1.570 |
| 2 | 0.104 | 4.68 | -0.553 | 1.882 | 4.67 | -0.539 | 1.837 |
| 2 | 0.144 | 4.68 | -0.541 | 1.839 | 4.67 | -0.527 | 1.794 |
| 3 | 0.104 | 4.69 | -0.626 | 2.122 | 4.69 | -0.660 | 2.238 |
| 3 | 0.144 | 4.69 | -0.613 | 2.080 | 4.69 | -0.637 | 2.162 |
| 4 | 0.104 | 4.71 | -0.575 | 1.943 | 4.70 | -0.583 | 1.972 |
| 4 | 0.144 | 4.71 | -0.559 | 1.890 | 4.70 | -0.556 | 1.880 |
| Blade no. | r/R | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 28 | 0.212 | 90.2 | 0.0 | -1.0 | 0.067513 | -0.000845 | -0.000044 |
| 29 | 0.002302 | 425.5 | 6.9 | 2.2 | -0.001191 | -0.000147 | 0.002024 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.69 | -0.457 | 1.551 | 4.68 | -0.448 | 1.523 |
| 1 | 0.144 | 4.69 | -0.447 | 1.518 | 4.68 | -0.434 | 1.476 |
| 2 | 0.104 | 4.68 | -0.551 | 1.876 | 4.67 | -0.568 | 1.936 |
| 2 | 0.144 | 4.68 | -0.539 | 1.834 | 4.67 | -0.547 | 1.863 |
| 3 | 0.104 | 4.67 | -0.667 | 2.271 | 4.67 | -0.670 | 2.283 |
| 3 | 0.144 | 4.67 | -0.654 | 2.227 | 4.67 | -0.644 | 2.196 |
| 4 | 0.104 | 4.71 | -0.582 | 1.966 | 4.70 | -0.597 | 2.020 |
| 4 | 0.144 | 4.71 | -0.564 | 1.905 | 4.70 | -0.573 | 1.940 |
| Blade no. | r/R | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 28 | 0.212 | 90.2 | 0.0 | -1.0 | 0.067513 | -0.000845 | -0.000044 |
| 29 | 0.002302 | 425.5 | 6.9 | 2.2 | -0.001191 | -0.000147 | 0.002024 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.68 | -0.435 | 1.479 | 4.68 | -0.444 | 1.510 |
| 1 | 0.144 | 4.68 | -0.424 | 1.443 | 4.68 | -0.419 | 1.426 |
| 2 | 0.104 | 4.66 | -0.545 | 1.863 | 4.65 | -0.547 | 1.870 |
| 2 | 0.144 | 4.66 | -0.537 | 1.835 | 4.65 | -0.537 | 1.838 |
| 3 | 0.104 | 4.65 | -0.654 | 2.238 | 4.65 | -0.649 | 2.219 |
| 3 | 0.144 | 4.65 | -0.639 | 2.187 | 4.65 | -0.624 | 2.135 |
| 4 | 0.104 | 4.69 | -0.632 | 2.142 | 4.69 | -0.626 | 2.124 |
| 4 | 0.144 | 4.69 | -0.613 | 2.080 | 4.69 | -0.604 | 2.049 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|-----------|----------|----------|------------|----------|---------------|----------------|-------------|
| 28 | 0.2468 | 105.1 | 0.0 | -0.8 | 0.068919 | -0.001193 | 0.000049 |
| 33 | 0.002286 | 425.9 | 7.0 | 2.4 | -0.001722 | -0.000097 | 0.001921 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.69 | -0.447 | 1.516 | 4.68 | -0.463 | 1.572 |
| 1 | 0.144 | 4.69 | -0.442 | 1.499 | 4.68 | -0.455 | 1.545 |
| 2 | 0.104 | 4.68 | -0.546 | 1.854 | 4.68 | -0.572 | 1.946 |
| 2 | 0.144 | 4.68 | -0.541 | 1.839 | 4.68 | -0.561 | 1.911 |
| 3 | 0.104 | 4.68 | -0.603 | 2.051 | 4.67 | -0.606 | 2.066 |
| 3 | 0.144 | 4.68 | -0.600 | 2.040 | 4.67 | -0.604 | 2.058 |
| 4 | 0.104 | 4.71 | -0.594 | 2.008 | 4.70 | -0.636 | 2.155 |
| 4 | 0.144 | 4.71 | -0.583 | 1.970 | 4.70 | -0.616 | 2.089 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.68 | -0.432 | 1.472 | 4.68 | -0.465 | 1.580 |
| 1 | 0.144 | 4.68 | -0.426 | 1.452 | 4.68 | -0.456 | 1.552 |
| 2 | 0.104 | 4.65 | -0.487 | 1.667 | 4.65 | -0.534 | 1.828 |
| 2 | 0.144 | 4.65 | -0.482 | 1.649 | 4.65 | -0.530 | 1.814 |
| 3 | 0.104 | 4.66 | -0.624 | 2.131 | 4.65 | -0.667 | 2.282 |
| 3 | 0.144 | 4.66 | -0.615 | 2.101 | 4.65 | -0.652 | 2.231 |
| 4 | 0.104 | 4.69 | -0.628 | 2.131 | 4.68 | -0.634 | 2.153 |
| 4 | 0.144 | 4.69 | -0.613 | 2.081 | 4.68 | -0.617 | 2.099 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.69 | -0.517 | 1.755 | 4.68 | -0.506 | 1.718 |
| 1 | 0.144 | 4.69 | -0.510 | 1.731 | 4.68 | -0.505 | 1.716 |
| 2 | 0.104 | 4.68 | -0.532 | 1.811 | 4.67 | -0.545 | 1.859 |
| 2 | 0.144 | 4.67 | -0.516 | 1.758 | 4.67 | -0.526 | 1.794 |
| 3 | 0.104 | 4.69 | -0.705 | 2.392 | 4.68 | -0.708 | 2.407 |
| 3 | 0.144 | 4.69 | -0.689 | 2.341 | 4.68 | -0.689 | 2.345 |
| 4 | 0.104 | 4.70 | -0.558 | 1.888 | 4.70 | -0.550 | 1.862 |
| 4 | 0.144 | 4.70 | -0.542 | 1.834 | 4.70 | -0.529 | 1.792 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|-----------|----------|----------|------------|----------|---------------|----------------|-------------|
| 28 | 0.2828 | 120.3 | 0.0 | -0.6 | 0.067862 | -0.001399 | -0.000179 |
| 37 | 0.00227 | 425.5 | 7.2 | 2.7 | -0.001951 | -0.000086 | 0.001939 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.64 | -0.465 | 1.596 | 4.64 | -0.422 | 1.448 |
| 1 | 0.144 | 4.64 | -0.454 | 1.559 | 4.64 | -0.407 | 1.395 |
| 2 | 0.104 | 4.61 | -0.468 | 1.614 | 4.62 | -0.449 | 1.546 |
| 2 | 0.144 | 4.61 | -0.473 | 1.630 | 4.62 | -0.463 | 1.594 |
| 3 | 0.104 | 4.60 | -0.756 | 2.617 | 4.60 | -0.707 | 2.445 |
| 3 | 0.144 | 4.59 | -0.765 | 2.650 | 4.60 | -0.702 | 2.431 |
| 4 | 0.104 | 4.66 | -0.711 | 2.430 | 4.65 | -0.654 | 2.237 |
| 4 | 0.144 | 4.66 | -0.704 | 2.405 | 4.65 | -0.660 | 2.259 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 28 | 0.2828 | 120.3 | 0.0 | -0.6 | 0.067862 | -0.001399 | -0.000179 |
| 37 | 0.00227 | 425.5 | 7.2 | 2.7 | -0.001951 | -0.000086 | 0.001939 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.65 | -0.450 | 1.539 | 4.65 | -0.458 | 1.565 |
| 1 | 0.144 | 4.65 | -0.441 | 1.507 | 4.65 | -0.433 | 1.482 |
| 2 | 0.104 | 4.64 | -0.488 | 1.673 | 4.64 | -0.472 | 1.617 |
| 2 | 0.144 | 4.64 | -0.483 | 1.656 | 4.64 | -0.463 | 1.590 |
| 3 | 0.104 | 4.64 | -0.578 | 1.981 | 4.64 | -0.556 | 1.908 |
| 3 | 0.144 | 4.64 | -0.562 | 1.926 | 4.63 | -0.541 | 1.857 |
| 4 | 0.104 | 4.67 | -0.561 | 1.913 | 4.67 | -0.563 | 1.919 |
| 4 | 0.144 | 4.67 | -0.545 | 1.858 | 4.66 | -0.539 | 1.839 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 28 | 0.2828 | 120.3 | 0.0 | -0.6 | 0.067862 | -0.001399 | -0.000179 |
| 37 | 0.00227 | 425.5 | 7.2 | 2.7 | -0.001951 | -0.000086 | 0.001939 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.66 | -0.461 | 1.575 | 4.66 | -0.467 | 1.596 |
| 1 | 0.144 | 4.66 | -0.456 | 1.557 | 4.66 | -0.459 | 1.569 |
| 2 | 0.104 | 4.65 | -0.479 | 1.637 | 4.65 | -0.493 | 1.687 |
| 2 | 0.144 | 4.65 | -0.470 | 1.608 | 4.65 | -0.473 | 1.621 |
| 3 | 0.104 | 4.64 | -0.636 | 2.180 | 4.64 | -0.642 | 2.201 |
| 3 | 0.144 | 4.64 | -0.621 | 2.130 | 4.64 | -0.628 | 2.151 |
| 4 | 0.104 | 4.68 | -0.523 | 1.778 | 4.68 | -0.552 | 1.878 |
| 4 | 0.144 | 4.68 | -0.511 | 1.739 | 4.67 | -0.536 | 1.826 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/S CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|--------------|-------------|-------------|---------------|------------|--------------------|-------------------|----------------|
| 34 | 0.0463 | 19.7 | -5.0 | -1.8 | 0.019386 | -0.000794 | 0.000227 |
| 31 | 0.002369 | 425.1 | 4.3 | 0.2 | 0.000357 | -0.000328 | 0.001665 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.82 | -0.509 | 1.681 | 4.81 | -0.532 | 1.758 |
| 1 | 0.144 | 4.82 | -0.501 | 1.653 | 4.81 | -0.522 | 1.727 |
| 2 | 0.104 | 4.80 | -0.631 | 2.092 | 4.79 | -0.629 | 2.089 |
| 2 | 0.144 | 4.80 | -0.618 | 2.051 | 4.79 | -0.615 | 2.042 |
| 3 | 0.104 | 4.82 | -0.660 | 2.176 | 4.83 | -0.667 | 2.199 |
| 3 | 0.144 | 4.83 | -0.653 | 2.153 | 4.82 | -0.658 | 2.169 |
| 4 | 0.104 | 4.83 | -0.569 | 1.877 | 4.82 | -0.572 | 1.887 |
| 4 | 0.144 | 4.82 | -0.559 | 1.845 | 4.82 | -0.558 | 1.842 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/S CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 34 | 0.0463 | 19.7 | -5.0 | -1.8 | 0.019386 | -0.000794 | 0.000227 |
| 31 | 0.002369 | 425.1 | 4.3 | 0.2 | 0.000357 | -0.000328 | 0.001665 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.81 | -0.549 | 1.818 | 4.80 | -0.557 | 1.844 |
| 1 | 0.144 | 4.81 | -0.540 | 1.789 | 4.80 | -0.548 | 1.814 |
| 2 | 0.104 | 4.79 | -0.643 | 2.135 | 4.79 | -0.620 | 2.062 |
| 2 | 0.144 | 4.79 | -0.630 | 2.095 | 4.78 | -0.608 | 2.021 |
| 3 | 0.104 | 4.83 | -0.702 | 2.312 | 4.82 | -0.712 | 2.350 |
| 3 | 0.144 | 4.83 | -0.692 | 2.281 | 4.82 | -0.707 | 2.335 |
| 4 | 0.104 | 4.82 | -0.556 | 1.836 | 4.82 | -0.568 | 1.878 |
| 4 | 0.144 | 4.82 | -0.550 | 1.818 | 4.81 | -0.559 | 1.848 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/S CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 34 | 0.0463 | 19.7 | -5.0 | -1.8 | 0.019386 | -0.000794 | 0.000227 |
| 31 | 0.002369 | 425.1 | 4.3 | 0.2 | 0.000357 | -0.000328 | 0.001665 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.81 | -0.549 | 1.815 | 4.81 | -0.560 | 1.853 |
| 1 | 0.144 | 4.81 | -0.540 | 1.786 | 4.81 | -0.550 | 1.821 |
| 2 | 0.104 | 4.81 | -0.601 | 1.989 | 4.80 | -0.635 | 2.104 |
| 2 | 0.144 | 4.81 | -0.589 | 1.949 | 4.80 | -0.620 | 2.056 |
| 3 | 0.104 | 4.82 | -0.723 | 2.386 | 4.81 | -0.723 | 2.392 |
| 3 | 0.144 | 4.82 | -0.713 | 2.352 | 4.81 | -0.701 | 2.318 |
| 4 | 0.104 | 4.83 | -0.536 | 1.765 | 4.83 | -0.553 | 1.823 |
| 4 | 0.144 | 4.83 | -0.529 | 1.741 | 4.83 | -0.542 | 1.786 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|-----------|----------|----------|------------|----------|---------------|----------------|-------------|
| 34 | 0.0454 | 19.3 | -5.0 | -2.1 | 0.038959 | -0.001100 | -0.000142 |
| 32 | 0.002367 | 424.6 | 6.5 | 0.5 | 0.001999 | -0.000131 | 0.002434 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.73 | -0.538 | 1.810 | 4.72 | -0.556 | 1.873 |
| 1 | 0.144 | 4.72 | -0.518 | 1.745 | 4.72 | -0.528 | 1.782 |
| 2 | 0.104 | 4.71 | -0.711 | 2.403 | 4.70 | -0.693 | 2.345 |
| 2 | 0.144 | 4.71 | -0.678 | 2.293 | 4.70 | -0.661 | 2.238 |
| 3 | 0.104 | 4.74 | -0.714 | 2.397 | 4.73 | -0.734 | 2.470 |
| 3 | 0.144 | 4.74 | -0.684 | 2.298 | 4.72 | -0.697 | 2.349 |
| 4 | 0.104 | 4.74 | -0.659 | 2.213 | 4.73 | -0.663 | 2.231 |
| 4 | 0.144 | 4.74 | -0.628 | 2.110 | 4.73 | -0.626 | 2.109 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 34 | 0.0454 | 19.3 | -5.0 | -2.1 | 0.038959 | -0.001100 | -0.000142 |
| 32 | 0.002367 | 424.6 | 6.5 | 0.5 | 0.001999 | -0.000131 | 0.002434 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.73 | -0.551 | 1.854 | 4.72 | -0.560 | 1.886 |
| 1 | 0.144 | 4.73 | -0.533 | 1.794 | 4.72 | -0.537 | 1.810 |
| 2 | 0.104 | 4.72 | -0.713 | 2.401 | 4.71 | -0.715 | 2.417 |
| 2 | 0.144 | 4.72 | -0.680 | 2.293 | 4.71 | -0.687 | 2.321 |
| 3 | 0.104 | 4.74 | -0.710 | 2.383 | 4.73 | -0.723 | 2.430 |
| 3 | 0.144 | 4.74 | -0.683 | 2.297 | 4.73 | -0.688 | 2.317 |
| 4 | 0.104 | 4.75 | -0.634 | 2.122 | 4.74 | -0.650 | 2.184 |
| 4 | 0.144 | 4.75 | -0.607 | 2.035 | 4.74 | -0.619 | 2.080 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 34 | 0.0454 | 19.3 | -5.0 | -2.1 | 0.038959 | -0.001100 | -0.000142 |
| 32 | 0.002367 | 424.6 | 6.5 | 0.5 | 0.001999 | -0.000131 | 0.002434 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.73 | -0.572 | 1.925 | 4.72 | -0.589 | 1.984 |
| 1 | 0.144 | 4.73 | -0.553 | 1.860 | 4.72 | -0.565 | 1.905 |
| 2 | 0.104 | 4.72 | -0.681 | 2.296 | 4.72 | -0.671 | 2.265 |
| 2 | 0.144 | 4.72 | -0.651 | 2.193 | 4.71 | -0.646 | 2.181 |
| 3 | 0.104 | 4.74 | -0.728 | 2.441 | 4.73 | -0.751 | 2.525 |
| 3 | 0.144 | 4.74 | -0.701 | 2.354 | 4.73 | -0.715 | 2.406 |
| 4 | 0.104 | 4.75 | -0.598 | 2.003 | 4.74 | -0.622 | 2.087 |
| 4 | 0.144 | 4.75 | -0.571 | 1.916 | 4.74 | -0.591 | 1.983 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|-----------|----------|----------|------------|----------|---------------|----------------|-------------|
| 34 | 0.0457 | 19.4 | -5.0 | -2.2 | 0.058859 | -0.001405 | -0.000159 |
| 33 | 0.002366 | 425.9 | 8.4 | 0.8 | 0.003639 | -0.000280 | 0.003520 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.70 | -0.697 | 2.361 | 4.69 | -0.717 | 2.433 |
| 1 | 0.144 | 4.70 | -0.689 | 2.333 | 4.69 | -0.693 | 2.353 |
| 2 | 0.104 | 4.70 | -0.772 | 2.618 | 4.68 | -0.766 | 2.604 |
| 2 | 0.144 | 4.69 | -0.743 | 2.518 | 4.68 | -0.731 | 2.485 |
| 3 | 0.104 | 4.69 | -0.808 | 2.740 | 4.68 | -0.810 | 2.751 |
| 3 | 0.144 | 4.69 | -0.782 | 2.652 | 4.68 | -0.771 | 2.623 |
| 4 | 0.104 | 4.72 | -0.762 | 2.572 | 4.70 | -0.810 | 2.739 |
| 4 | 0.144 | 4.72 | -0.729 | 2.460 | 4.70 | -0.762 | 2.579 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 34 | 0.0457 | 19.4 | -5.0 | -2.2 | 0.058859 | -0.001405 | -0.000159 |
| 33 | 0.002366 | 425.9 | 8.4 | 0.8 | 0.003639 | -0.000280 | 0.003520 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.69 | -0.689 | 2.336 | 4.69 | -0.712 | 2.417 |
| 1 | 0.144 | 4.69 | -0.672 | 2.280 | 4.68 | -0.688 | 2.337 |
| 2 | 0.104 | 4.68 | -0.834 | 2.836 | 4.66 | -0.806 | 2.750 |
| 2 | 0.144 | 4.68 | -0.801 | 2.726 | 4.66 | -0.774 | 2.641 |
| 3 | 0.104 | 4.69 | -0.789 | 2.673 | 4.68 | -0.828 | 2.811 |
| 3 | 0.144 | 4.69 | -0.766 | 2.595 | 4.68 | -0.791 | 2.688 |
| 4 | 0.104 | 4.70 | -0.818 | 2.768 | 4.69 | -0.832 | 2.823 |
| 4 | 0.144 | 4.70 | -0.789 | 2.671 | 4.68 | -0.800 | 2.718 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 34 | 0.0457 | 19.4 | -5.0 | -2.2 | 0.058859 | -0.001405 | -0.000159 |
| 33 | 0.002366 | 425.9 | 8.4 | 0.8 | 0.003639 | -0.000280 | 0.003520 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.69 | -0.685 | 2.324 | 4.68 | -0.704 | 2.393 |
| 1 | 0.144 | 4.69 | -0.668 | 2.267 | 4.68 | -0.681 | 2.315 |
| 2 | 0.104 | 4.69 | -0.780 | 2.645 | 4.68 | -0.807 | 2.747 |
| 2 | 0.144 | 4.69 | -0.756 | 2.565 | 4.67 | -0.777 | 2.644 |
| 3 | 0.104 | 4.69 | -0.791 | 2.686 | 4.68 | -0.799 | 2.719 |
| 3 | 0.144 | 4.68 | -0.776 | 2.636 | 4.67 | -0.779 | 2.654 |
| 4 | 0.104 | 4.71 | -0.778 | 2.629 | 4.69 | -0.815 | 2.764 |
| 4 | 0.144 | 4.70 | -0.752 | 2.543 | 4.69 | -0.781 | 2.648 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|-----------|----------|----------|------------|------------|---------------|----------------|----------------|
| 22 | 0.0455 | 19.4 | -5.0 | -2.4 | 0.068893 | -0.002016 | -0.000193 |
| 19 | 0.002344 | 425.3 | 9.2 | 1.0 | 0.004665 | -0.000524 | 0.004240 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.65 | -0.845 | 2.892 | 4.64 | -0.845 | 2.896 |
| 1 | 0.144 | 4.65 | -0.831 | 2.847 | 4.64 | -0.819 | 2.810 |
| 2 | 0.104 | 4.64 | -0.814 | 2.794 | 4.63 | -0.803 | 2.761 |
| 2 | 0.144 | 4.64 | -0.799 | 2.741 | 4.63 | -0.784 | 2.695 |
| 3 | 0.104 | 4.62 | -0.983 | 3.383 | 4.63 | -0.960 | 3.301 |
| 3 | 0.144 | 4.62 | -0.967 | 3.327 | 4.62 | -0.927 | 3.189 |
| 4 | 0.104 | 4.64 | -0.915 | 3.140 | 4.64 | -0.895 | 3.065 |
| 4 | 0.144 | 4.64 | -0.897 | 3.078 | 4.64 | -0.863 | 2.958 |
| Blade no. | r/R | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 22 | 0.0455 | 19.4 | -5.0 | -2.4 | 0.068893 | -0.002016 | -0.000193 |
| 19 | 0.002344 | 425.3 | 9.2 | 1.0 | 0.004665 | -0.000524 | 0.004240 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.64 | -0.821 | 2.816 | 4.63 | -0.835 | 2.870 |
| 1 | 0.144 | 4.63 | -0.793 | 2.724 | 4.62 | -0.798 | 2.748 |
| 2 | 0.104 | 4.63 | -0.841 | 2.891 | 4.62 | -0.852 | 2.936 |
| 2 | 0.144 | 4.63 | -0.823 | 2.830 | 4.62 | -0.830 | 2.861 |
| 3 | 0.104 | 4.61 | -0.913 | 3.150 | 4.61 | -0.929 | 3.206 |
| 3 | 0.144 | 4.61 | -0.883 | 3.046 | 4.60 | -0.891 | 3.079 |
| 4 | 0.104 | 4.65 | -0.923 | 3.160 | 4.63 | -0.942 | 3.233 |
| 4 | 0.144 | 4.64 | -0.895 | 3.065 | 4.63 | -0.905 | 3.107 |
| Blade no. | r/R | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S |
| 22 | 0.0455 | 19.4 | -5.0 | -2.4 | 0.068893 | -0.002016 | -0.000193 |
| 19 | 0.002344 | 425.3 | 9.2 | 1.0 | 0.004665 | -0.000524 | 0.004240 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.64 | -0.843 | 2.892 | 4.63 | -0.804 | 2.763 |
| 1 | 0.144 | 4.64 | -0.818 | 2.805 | 4.63 | -0.772 | 2.653 |
| 2 | 0.104 | 4.63 | -0.805 | 2.763 | 4.63 | -0.823 | 2.830 |
| 2 | 0.144 | 4.63 | -0.788 | 2.704 | 4.63 | -0.794 | 2.728 |
| 3 | 0.104 | 4.62 | -0.944 | 3.252 | 4.61 | -0.929 | 3.205 |
| 3 | 0.144 | 4.62 | -0.919 | 3.167 | 4.61 | -0.892 | 3.080 |
| 4 | 0.104 | 4.66 | -0.943 | 3.221 | 4.64 | -0.953 | 3.267 |
| 4 | 0.144 | 4.65 | -0.915 | 3.130 | 4.64 | -0.909 | 3.116 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/S CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|--------------|-------------|-------------|---------------|------------|--------------------|-------------------|----------------|
| 34 | 0.0462 | 19.7 | -5.0 | -2.2 | 0.079064 | -0.001745 | -0.000157 |
| 35 | 0.002365 | 426.0 | 10.1 | 1.1 | 0.005313 | -0.000365 | 0.005038 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.61 | -0.886 | 3.057 | 4.61 | -0.942 | 3.250 |
| 1 | 0.144 | 4.61 | -0.865 | 2.986 | 4.61 | -0.895 | 3.092 |
| 2 | 0.104 | 4.61 | -0.944 | 3.259 | 4.59 | -0.953 | 3.302 |
| 2 | 0.144 | 4.61 | -0.924 | 3.190 | 4.59 | -0.925 | 3.207 |
| 3 | 0.104 | 4.59 | -0.858 | 2.971 | 4.59 | -0.916 | 3.176 |
| 3 | 0.144 | 4.59 | -0.858 | 2.976 | 4.58 | -0.894 | 3.104 |
| 4 | 0.104 | 4.61 | -1.064 | 3.673 | 4.60 | -1.076 | 3.720 |
| 4 | 0.144 | 4.61 | -1.047 | 3.612 | 4.60 | -1.035 | 3.580 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.60 | -0.976 | 3.372 | 4.61 | -1.020 | 3.525 |
| 1 | 0.144 | 4.60 | -0.955 | 3.303 | 4.60 | -0.953 | 3.298 |
| 2 | 0.104 | 4.60 | -0.951 | 3.289 | 4.59 | -0.941 | 3.262 |
| 2 | 0.144 | 4.60 | -0.945 | 3.268 | 4.59 | -0.921 | 3.192 |
| 3 | 0.104 | 4.60 | -1.002 | 3.464 | 4.59 | -1.041 | 3.607 |
| 3 | 0.144 | 4.59 | -0.985 | 3.408 | 4.58 | -0.990 | 3.441 |
| 4 | 0.104 | 4.60 | -1.118 | 3.862 | 4.59 | -1.085 | 3.759 |
| 4 | 0.144 | 4.60 | -1.100 | 3.803 | 4.59 | -1.043 | 3.617 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.60 | -1.059 | 3.664 | 4.60 | -1.021 | 3.534 |
| 1 | 0.144 | 4.59 | -1.033 | 3.578 | 4.59 | -0.964 | 3.342 |
| 2 | 0.104 | 4.60 | -0.964 | 3.332 | 4.59 | -0.964 | 3.338 |
| 2 | 0.144 | 4.60 | -0.955 | 3.300 | 4.59 | -0.937 | 3.246 |
| 3 | 0.104 | 4.59 | -1.074 | 3.719 | 4.58 | -1.046 | 3.634 |
| 3 | 0.144 | 4.59 | -1.060 | 3.678 | 4.57 | -1.005 | 3.501 |
| 4 | 0.104 | 4.61 | -1.090 | 3.758 | 4.59 | -1.077 | 3.727 |
| 4 | 0.144 | 4.61 | -1.071 | 3.695 | 4.59 | -1.034 | 3.580 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|-----------|----------|----------|------------|----------|---------------|----------------|-------------|
| 34 | 0.0462 | 19.6 | -5.0 | -2.4 | 0.098760 | -0.002044 | -0.000098 |
| 37 | 0.002364 | 424.8 | 11.8 | 1.3 | 0.006814 | -0.000528 | 0.006889 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.56 | -1.155 | 4.027 | 4.56 | -1.439 | 5.013 |
| 1 | 0.144 | 4.56 | -1.143 | 3.987 | 4.55 | -1.402 | 4.894 |
| 2 | 0.104 | 4.54 | -1.168 | 4.090 | 4.53 | -1.264 | 4.436 |
| 2 | 0.144 | 4.54 | -1.166 | 4.083 | 4.53 | -1.266 | 4.443 |
| 3 | 0.104 | 4.56 | -1.167 | 4.072 | 4.54 | -1.454 | 5.092 |
| 3 | 0.144 | 4.55 | -1.176 | 4.110 | 4.52 | -1.426 | 5.017 |
| 4 | 0.104 | 4.54 | -1.322 | 4.630 | 4.53 | -1.453 | 5.099 |
| 4 | 0.144 | 4.54 | -1.336 | 4.681 | 4.53 | -1.422 | 4.993 |
| Blade no. | r/R | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 34 | 0.0462 | 19.6 | -5.0 | -2.4 | 0.098760 | -0.002044 | -0.000098 |
| 37 | 0.002364 | 424.8 | 11.8 | 1.3 | 0.006814 | -0.000528 | 0.006889 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.55 | -1.342 | 4.686 | 4.56 | -1.324 | 4.617 |
| 1 | 0.144 | 4.55 | -1.324 | 4.624 | 4.55 | -1.255 | 4.387 |
| 2 | 0.104 | 4.54 | -1.501 | 5.255 | 4.52 | -1.355 | 4.763 |
| 2 | 0.144 | 4.54 | -1.492 | 5.223 | 4.52 | -1.337 | 4.700 |
| 3 | 0.104 | 4.52 | -1.346 | 4.739 | 4.54 | -1.402 | 4.906 |
| 3 | 0.144 | 4.52 | -1.322 | 4.653 | 4.53 | -1.279 | 4.492 |
| 4 | 0.104 | 4.55 | -1.626 | 5.681 | 4.52 | -1.600 | 5.623 |
| 4 | 0.144 | 4.55 | -1.612 | 5.635 | 4.52 | -1.554 | 5.459 |
| Blade no. | r/R | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 34 | 0.0462 | 19.6 | -5.0 | -2.4 | 0.098760 | -0.002044 | -0.000098 |
| 37 | 0.002364 | 424.8 | 11.8 | 1.3 | 0.006814 | -0.000528 | 0.006889 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.55 | -1.386 | 4.848 | 4.54 | -1.270 | 4.448 |
| 1 | 0.144 | 4.54 | -1.382 | 4.835 | 4.54 | -1.231 | 4.311 |
| 2 | 0.104 | 4.54 | -1.352 | 4.730 | 4.54 | -1.357 | 4.756 |
| 2 | 0.144 | 4.54 | -1.357 | 4.749 | 4.53 | -1.330 | 4.663 |
| 3 | 0.104 | 4.53 | -1.345 | 4.719 | 4.52 | -1.315 | 4.624 |
| 3 | 0.144 | 4.53 | -1.298 | 4.556 | 4.51 | -1.302 | 4.590 |
| 4 | 0.104 | 4.56 | -1.497 | 5.221 | 4.54 | -1.540 | 5.389 |
| 4 | 0.144 | 4.55 | -1.503 | 5.246 | 4.53 | -1.500 | 5.260 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|-----------|----------|----------|------------|----------|---------------|----------------|-------------|
| 21 | 0.0704 | 29.9 | -5.0 | -1.4 | 0.019943 | -0.000184 | -0.000335 |
| 5 | 0.002366 | 425.2 | 3.9 | 0.5 | 0.001010 | -0.000076 | 0.001501 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.83 | -0.554 | 1.825 | 4.83 | -0.552 | 1.822 |
| 1 | 0.144 | 4.83 | -0.548 | 1.808 | 4.82 | -0.544 | 1.793 |
| 2 | 0.104 | 4.84 | -0.620 | 2.039 | 4.83 | -0.656 | 2.162 |
| 2 | 0.144 | 4.84 | -0.613 | 2.017 | 4.83 | -0.638 | 2.101 |
| 3 | 0.104 | 4.85 | -0.729 | 2.393 | 4.84 | -0.695 | 2.286 |
| 3 | 0.144 | 4.85 | -0.721 | 2.368 | 4.84 | -0.694 | 2.283 |
| 4 | 0.104 | 4.86 | -0.557 | 1.821 | 4.86 | -0.567 | 1.859 |
| 4 | 0.144 | 4.86 | -0.549 | 1.797 | 4.86 | -0.560 | 1.836 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 21 | 0.0704 | 29.9 | -5.0 | -1.4 | 0.019943 | -0.000184 | -0.000335 |
| 5 | 0.002366 | 425.2 | 3.9 | 0.5 | 0.001010 | -0.000076 | 0.001501 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.83 | -0.571 | 1.883 | 4.82 | -0.554 | 1.829 |
| 1 | 0.144 | 4.82 | -0.562 | 1.854 | 4.82 | -0.544 | 1.798 |
| 2 | 0.104 | 4.83 | -0.638 | 2.102 | 4.82 | -0.652 | 2.153 |
| 2 | 0.144 | 4.83 | -0.632 | 2.082 | 4.82 | -0.646 | 2.132 |
| 3 | 0.104 | 4.83 | -0.706 | 2.327 | 4.82 | -0.692 | 2.281 |
| 3 | 0.144 | 4.83 | -0.695 | 2.292 | 4.82 | -0.674 | 2.222 |
| 4 | 0.104 | 4.84 | -0.564 | 1.852 | 4.84 | -0.581 | 1.911 |
| 4 | 0.144 | 4.84 | -0.557 | 1.831 | 4.84 | -0.573 | 1.884 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 21 | 0.0704 | 29.9 | -5.0 | -1.4 | 0.019943 | -0.000184 | -0.000335 |
| 5 | 0.002366 | 425.2 | 3.9 | 0.5 | 0.001010 | -0.000076 | 0.001501 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.83 | -0.528 | 1.739 | 4.83 | -0.538 | 1.772 |
| 1 | 0.144 | 4.83 | -0.524 | 1.727 | 4.83 | -0.537 | 1.770 |
| 2 | 0.104 | 4.82 | -0.688 | 2.269 | 4.81 | -0.648 | 2.144 |
| 2 | 0.144 | 4.83 | -0.669 | 2.204 | 4.82 | -0.641 | 2.117 |
| 3 | 0.104 | 4.84 | -0.657 | 2.158 | 4.84 | -0.646 | 2.125 |
| 3 | 0.144 | 4.84 | -0.646 | 2.124 | 4.84 | -0.643 | 2.114 |
| 4 | 0.104 | 4.84 | -0.612 | 2.010 | 4.84 | -0.634 | 2.086 |
| 4 | 0.144 | 4.84 | -0.607 | 1.996 | 4.84 | -0.634 | 2.086 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRHS/CMXHS/S | CMYH/CP/S |
|-----------|----------|----------|------------|----------|---------------|---------------|-----------|
| 21 | 0.0711 | 30.2 | -5.0 | -2.0 | 0.039098 | -0.000561 | -0.000260 |
| 6 | 0.002357 | 424.9 | 5.9 | 0.8 | 0.002657 | -0.000262 | 0.002166 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.70 | -0.579 | 1.959 | 4.70 | -0.601 | 2.038 |
| 1 | 0.144 | 4.70 | -0.549 | 1.860 | 4.69 | -0.574 | 1.944 |
| 2 | 0.104 | 4.70 | -0.683 | 2.315 | 4.69 | -0.674 | 2.289 |
| 2 | 0.144 | 4.70 | -0.664 | 2.247 | 4.69 | -0.658 | 2.232 |
| 3 | 0.104 | 4.71 | -0.732 | 2.473 | 4.70 | -0.739 | 2.503 |
| 3 | 0.144 | 4.71 | -0.701 | 2.368 | 4.70 | -0.701 | 2.376 |
| 4 | 0.104 | 4.72 | -0.614 | 2.068 | 4.71 | -0.616 | 2.078 |
| 4 | 0.144 | 4.72 | -0.581 | 1.957 | 4.71 | -0.582 | 1.964 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.70 | -0.553 | 1.873 | 4.70 | -0.580 | 1.966 |
| 1 | 0.144 | 4.70 | -0.522 | 1.769 | 4.70 | -0.544 | 1.844 |
| 2 | 0.104 | 4.70 | -0.692 | 2.342 | 4.68 | -0.695 | 2.361 |
| 2 | 0.144 | 4.70 | -0.680 | 2.303 | 4.69 | -0.680 | 2.309 |
| 3 | 0.104 | 4.70 | -0.706 | 2.390 | 4.70 | -0.719 | 2.431 |
| 3 | 0.144 | 4.70 | -0.679 | 2.300 | 4.70 | -0.670 | 2.270 |
| 4 | 0.104 | 4.73 | -0.627 | 2.109 | 4.72 | -0.654 | 2.204 |
| 4 | 0.144 | 4.72 | -0.594 | 2.001 | 4.72 | -0.615 | 2.075 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.70 | -0.527 | 1.786 | 4.70 | -0.537 | 1.818 |
| 1 | 0.144 | 4.69 | -0.498 | 1.688 | 4.69 | -0.504 | 1.708 |
| 2 | 0.104 | 4.70 | -0.706 | 2.391 | 4.69 | -0.714 | 2.424 |
| 2 | 0.144 | 4.70 | -0.692 | 2.340 | 4.69 | -0.702 | 2.382 |
| 3 | 0.104 | 4.70 | -0.698 | 2.360 | 4.69 | -0.704 | 2.386 |
| 3 | 0.144 | 4.70 | -0.673 | 2.278 | 4.69 | -0.674 | 2.284 |
| 4 | 0.104 | 4.73 | -0.628 | 2.113 | 4.72 | -0.652 | 2.200 |
| 4 | 0.144 | 4.73 | -0.598 | 2.012 | 4.71 | -0.617 | 2.083 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|-----------|----------|----------|------------|----------|---------------|----------------|-------------|
| 21 | 0.0713 | 30.3 | -5.0 | -2.4 | 0.059216 | -0.001059 | -0.000101 |
| 7 | 0.002354 | 424.6 | 7.8 | 1.1 | 0.004331 | -0.000278 | 0.003167 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.65 | -0.580 | 1.985 | 4.65 | -0.595 | 2.037 |
| 1 | 0.144 | 4.65 | -0.561 | 1.921 | 4.64 | -0.569 | 1.950 |
| 2 | 0.104 | 4.64 | -0.707 | 2.425 | 4.63 | -0.724 | 2.490 |
| 2 | 0.144 | 4.64 | -0.689 | 2.362 | 4.63 | -0.701 | 2.408 |
| 3 | 0.104 | 4.65 | -0.709 | 2.425 | 4.64 | -0.720 | 2.468 |
| 3 | 0.144 | 4.64 | -0.689 | 2.360 | 4.64 | -0.688 | 2.362 |
| 4 | 0.104 | 4.66 | -0.729 | 2.489 | 4.65 | -0.747 | 2.554 |
| 4 | 0.144 | 4.66 | -0.699 | 2.386 | 4.65 | -0.708 | 2.423 |
| Blade no. | r/R | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 21 | 0.0713 | 30.3 | -5.0 | -2.4 | 0.059216 | -0.001059 | -0.000101 |
| 7 | 0.002354 | 424.6 | 7.8 | 1.1 | 0.004331 | -0.000278 | 0.003167 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.65 | -0.566 | 1.937 | 4.65 | -0.594 | 2.034 |
| 1 | 0.144 | 4.65 | -0.544 | 1.863 | 4.65 | -0.565 | 1.934 |
| 2 | 0.104 | 4.64 | -0.669 | 2.295 | 4.63 | -0.663 | 2.279 |
| 2 | 0.144 | 4.64 | -0.655 | 2.247 | 4.63 | -0.650 | 2.234 |
| 3 | 0.104 | 4.64 | -0.696 | 2.385 | 4.64 | -0.718 | 2.464 |
| 3 | 0.144 | 4.64 | -0.676 | 2.319 | 4.64 | -0.694 | 2.381 |
| 4 | 0.104 | 4.66 | -0.693 | 2.366 | 4.66 | -0.709 | 2.423 |
| 4 | 0.144 | 4.66 | -0.671 | 2.292 | 4.65 | -0.688 | 2.352 |
| Blade no. | r/R | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 21 | 0.0713 | 30.3 | -5.0 | -2.4 | 0.059216 | -0.001059 | -0.000101 |
| 7 | 0.002354 | 424.6 | 7.8 | 1.1 | 0.004331 | -0.000278 | 0.003167 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.65 | -0.601 | 2.058 | 4.64 | -0.604 | 2.068 |
| 1 | 0.144 | 4.64 | -0.576 | 1.974 | 4.64 | -0.578 | 1.982 |
| 2 | 0.104 | 4.64 | -0.678 | 2.322 | 4.64 | -0.693 | 2.379 |
| 2 | 0.144 | 4.64 | -0.665 | 2.279 | 4.64 | -0.679 | 2.330 |
| 3 | 0.104 | 4.64 | -0.740 | 2.540 | 4.63 | -0.741 | 2.544 |
| 3 | 0.144 | 4.64 | -0.721 | 2.477 | 4.63 | -0.718 | 2.465 |
| 4 | 0.104 | 4.67 | -0.670 | 2.284 | 4.66 | -0.706 | 2.410 |
| 4 | 0.144 | 4.67 | -0.648 | 2.209 | 4.66 | -0.679 | 2.319 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|-----------|----------|----------|------------|----------|---------------|----------------|-------------|
| 14 | 0.0709 | 30.1 | -5.0 | -2.4 | 0.067572 | -0.001174 | -0.000179 |
| 6 | 0.002393 | 425.2 | 8.4 | 1.2 | 0.005292 | 0.000206 | 0.003640 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.73 | -0.719 | 2.419 | 4.73 | -0.776 | 2.610 |
| 1 | 0.144 | 4.73 | -0.694 | 2.335 | 4.72 | -0.729 | 2.456 |
| 2 | 0.104 | 4.70 | -0.747 | 2.529 | 4.69 | -0.748 | 2.535 |
| 2 | 0.144 | 4.70 | -0.744 | 2.521 | 4.70 | -0.749 | 2.537 |
| 3 | 0.104 | 4.70 | -0.867 | 2.935 | 4.70 | -0.941 | 3.188 |
| 3 | 0.144 | 4.69 | -0.867 | 2.937 | 4.69 | -0.877 | 2.973 |
| 4 | 0.104 | 4.72 | -0.941 | 3.169 | 4.72 | -0.934 | 3.151 |
| 4 | 0.144 | 4.72 | -0.931 | 3.137 | 4.71 | -0.930 | 3.140 |
| Blade no. | r/R | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 14 | 0.0709 | 30.1 | -5.0 | -2.4 | 0.067572 | -0.001174 | -0.000179 |
| 6 | 0.002393 | 425.2 | 8.4 | 1.2 | 0.005292 | 0.000206 | 0.003640 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.72 | -0.648 | 2.183 | 4.72 | -0.739 | 2.493 |
| 1 | 0.144 | 4.72 | -0.621 | 2.097 | 4.71 | -0.704 | 2.375 |
| 2 | 0.104 | 4.68 | -0.802 | 2.726 | 4.68 | -0.830 | 2.820 |
| 2 | 0.144 | 4.68 | -0.802 | 2.724 | 4.67 | -0.830 | 2.824 |
| 3 | 0.104 | 4.70 | -0.755 | 2.556 | 4.70 | -0.918 | 3.108 |
| 3 | 0.144 | 4.69 | -0.712 | 2.416 | 4.68 | -0.846 | 2.873 |
| 4 | 0.104 | 4.71 | -0.989 | 3.341 | 4.70 | -1.010 | 3.418 |
| 4 | 0.144 | 4.71 | -0.970 | 3.279 | 4.69 | -0.986 | 3.340 |
| Blade no. | r/R | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 14 | 0.0709 | 30.1 | -5.0 | -2.4 | 0.067572 | -0.001174 | -0.000179 |
| 6 | 0.002393 | 425.2 | 8.4 | 1.2 | 0.005292 | 0.000206 | 0.003640 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.72 | -0.648 | 2.187 | 4.72 | -0.732 | 2.467 |
| 1 | 0.144 | 4.71 | -0.625 | 2.111 | 4.71 | -0.697 | 2.355 |
| 2 | 0.104 | 4.69 | -0.815 | 2.765 | 4.68 | -0.831 | 2.825 |
| 2 | 0.144 | 4.69 | -0.810 | 2.747 | 4.67 | -0.828 | 2.819 |
| 3 | 0.104 | 4.69 | -0.734 | 2.489 | 4.70 | -0.878 | 2.971 |
| 3 | 0.144 | 4.68 | -0.729 | 2.475 | 4.68 | -0.850 | 2.885 |
| 4 | 0.104 | 4.72 | -0.974 | 3.281 | 4.71 | -1.010 | 3.411 |
| 4 | 0.144 | 4.72 | -0.954 | 3.215 | 4.70 | -0.976 | 3.300 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|-----------|----------|----------|------------|----------|---------------|----------------|-------------|
| 21 | 0.0715 | 30.3 | -5.0 | -2.6 | 0.068734 | -0.001304 | 0.000094 |
| 8 | 0.002352 | 424.8 | 8.6 | 1.3 | 0.005097 | -0.000297 | 0.003776 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.61 | -0.661 | 2.282 | 4.61 | -0.663 | 2.288 |
| 1 | 0.144 | 4.61 | -0.646 | 2.232 | 4.61 | -0.637 | 2.199 |
| 2 | 0.104 | 4.61 | -0.689 | 2.380 | 4.60 | -0.696 | 2.407 |
| 2 | 0.144 | 4.61 | -0.678 | 2.344 | 4.60 | -0.687 | 2.377 |
| 3 | 0.104 | 4.59 | -0.758 | 2.630 | 4.59 | -0.754 | 2.611 |
| 3 | 0.144 | 4.59 | -0.742 | 2.575 | 4.59 | -0.725 | 2.511 |
| 4 | 0.104 | 4.62 | -0.787 | 2.707 | 4.62 | -0.809 | 2.787 |
| 4 | 0.144 | 4.62 | -0.779 | 2.680 | 4.62 | -0.798 | 2.747 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 21 | 0.0715 | 30.3 | -5.0 | -2.6 | 0.068734 | -0.001304 | 0.000094 |
| 8 | 0.002352 | 424.8 | 8.6 | 1.3 | 0.005097 | -0.000297 | 0.003776 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.62 | -0.637 | 2.191 | 4.62 | -0.656 | 2.260 |
| 1 | 0.144 | 4.62 | -0.617 | 2.125 | 4.61 | -0.633 | 2.181 |
| 2 | 0.104 | 4.61 | -0.670 | 2.312 | 4.60 | -0.686 | 2.370 |
| 2 | 0.144 | 4.61 | -0.666 | 2.297 | 4.60 | -0.679 | 2.347 |
| 3 | 0.104 | 4.61 | -0.746 | 2.576 | 4.60 | -0.748 | 2.586 |
| 3 | 0.144 | 4.60 | -0.731 | 2.528 | 4.60 | -0.731 | 2.529 |
| 4 | 0.104 | 4.63 | -0.791 | 2.718 | 4.62 | -0.811 | 2.794 |
| 4 | 0.144 | 4.63 | -0.780 | 2.680 | 4.62 | -0.793 | 2.732 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 21 | 0.0715 | 30.3 | -5.0 | -2.6 | 0.068734 | -0.001304 | 0.000094 |
| 8 | 0.002352 | 424.8 | 8.6 | 1.3 | 0.005097 | -0.000297 | 0.003776 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.62 | -0.662 | 2.280 | 4.61 | -0.655 | 2.258 |
| 1 | 0.144 | 4.62 | -0.645 | 2.223 | 4.61 | -0.634 | 2.187 |
| 2 | 0.104 | 4.61 | -0.665 | 2.295 | 4.61 | -0.695 | 2.400 |
| 2 | 0.144 | 4.61 | -0.657 | 2.267 | 4.61 | -0.685 | 2.367 |
| 3 | 0.104 | 4.59 | -0.749 | 2.594 | 4.60 | -0.750 | 2.596 |
| 3 | 0.144 | 4.59 | -0.734 | 2.543 | 4.59 | -0.735 | 2.548 |
| 4 | 0.104 | 4.63 | -0.777 | 2.668 | 4.62 | -0.810 | 2.787 |
| 4 | 0.144 | 4.63 | -0.766 | 2.631 | 4.62 | -0.790 | 2.721 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|-----------|----------|----------|------------|----------|---------------|----------------|-------------|
| 21 | 0.0713 | 30.3 | -5.0 | -2.7 | 0.078769 | -0.001678 | -0.000168 |
| 9 | 0.002351 | 425.2 | 9.5 | 1.5 | 0.006098 | -0.000387 | 0.004513 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.59 | -0.758 | 2.627 | 4.59 | -0.809 | 2.805 |
| 1 | 0.144 | 4.59 | -0.749 | 2.599 | 4.59 | -0.802 | 2.783 |
| 2 | 0.104 | 4.57 | -0.721 | 2.509 | 4.57 | -0.746 | 2.596 |
| 2 | 0.144 | 4.57 | -0.721 | 2.511 | 4.57 | -0.747 | 2.599 |
| 3 | 0.104 | 4.57 | -0.806 | 2.805 | 4.56 | -0.879 | 3.065 |
| 3 | 0.144 | 4.57 | -0.795 | 2.770 | 4.56 | -0.865 | 3.019 |
| 4 | 0.104 | 4.57 | -0.931 | 3.236 | 4.58 | -0.889 | 3.086 |
| 4 | 0.144 | 4.58 | -0.930 | 3.232 | 4.58 | -0.891 | 3.092 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 21 | 0.0713 | 30.3 | -5.0 | -2.7 | 0.078769 | -0.001678 | -0.000168 |
| 9 | 0.002351 | 425.2 | 9.5 | 1.5 | 0.006098 | -0.000387 | 0.004513 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.60 | -0.796 | 2.754 | 4.59 | -0.790 | 2.739 |
| 1 | 0.144 | 4.59 | -0.789 | 2.732 | 4.59 | -0.758 | 2.630 |
| 2 | 0.104 | 4.58 | -0.801 | 2.783 | 4.57 | -0.748 | 2.602 |
| 2 | 0.144 | 4.58 | -0.795 | 2.761 | 4.57 | -0.737 | 2.563 |
| 3 | 0.104 | 4.55 | -0.830 | 2.898 | 4.57 | -0.838 | 2.918 |
| 3 | 0.144 | 4.56 | -0.825 | 2.881 | 4.57 | -0.807 | 2.813 |
| 4 | 0.104 | 4.58 | -0.984 | 3.420 | 4.58 | -0.939 | 3.262 |
| 4 | 0.144 | 4.58 | -0.986 | 3.425 | 4.58 | -0.927 | 3.224 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 21 | 0.0713 | 30.3 | -5.0 | -2.7 | 0.078769 | -0.001678 | -0.000168 |
| 9 | 0.002351 | 425.2 | 9.5 | 1.5 | 0.006098 | -0.000387 | 0.004513 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.60 | -0.816 | 2.824 | 4.60 | -0.795 | 2.751 |
| 1 | 0.144 | 4.59 | -0.808 | 2.799 | 4.59 | -0.775 | 2.686 |
| 2 | 0.104 | 4.58 | -0.803 | 2.787 | 4.57 | -0.766 | 2.665 |
| 2 | 0.144 | 4.58 | -0.794 | 2.756 | 4.57 | -0.755 | 2.627 |
| 3 | 0.104 | 4.57 | -0.821 | 2.856 | 4.57 | -0.809 | 2.820 |
| 3 | 0.144 | 4.57 | -0.817 | 2.845 | 4.56 | -0.793 | 2.766 |
| 4 | 0.104 | 4.58 | -0.977 | 3.392 | 4.58 | -0.930 | 3.230 |
| 4 | 0.144 | 4.58 | -0.977 | 3.390 | 4.58 | -0.918 | 3.186 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|-----------|----------|----------|------------|----------|---------------|----------------|-------------|
| 21 | 0.0717 | 30.5 | -5.0 | -3.0 | 0.098839 | -0.002370 | -0.000110 |
| 10 | 0.00235 | 424.9 | 11.2 | 1.9 | 0.007649 | -0.000543 | 0.006214 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.51 | -1.056 | 3.727 | 4.53 | -1.168 | 4.105 |
| 1 | 0.144 | 4.50 | -1.030 | 3.636 | 4.52 | -1.150 | 4.047 |
| 2 | 0.104 | 4.49 | -1.348 | 4.774 | 4.50 | -1.276 | 4.508 |
| 2 | 0.144 | 4.49 | -1.352 | 4.784 | 4.50 | -1.268 | 4.484 |
| 3 | 0.104 | 4.45 | -1.228 | 4.388 | 4.51 | -1.230 | 4.343 |
| 3 | 0.144 | 4.45 | -1.169 | 4.179 | 4.48 | -1.172 | 4.159 |
| 4 | 0.104 | 4.50 | -1.683 | 5.946 | 4.52 | -1.553 | 5.460 |
| 4 | 0.144 | 4.49 | -1.645 | 5.816 | 4.51 | -1.526 | 5.374 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.50 | -1.382 | 4.876 | 4.53 | -1.219 | 4.276 |
| 1 | 0.144 | 4.50 | -1.367 | 4.828 | 4.53 | -1.164 | 4.091 |
| 2 | 0.104 | 4.51 | -1.252 | 4.415 | 4.51 | -1.159 | 4.087 |
| 2 | 0.144 | 4.51 | -1.259 | 4.443 | 4.50 | -1.174 | 4.148 |
| 3 | 0.104 | 4.49 | -1.408 | 4.981 | 4.49 | -1.279 | 4.528 |
| 3 | 0.144 | 4.48 | -1.276 | 4.528 | 4.48 | -1.195 | 4.243 |
| 4 | 0.104 | 4.48 | -1.246 | 4.426 | 4.52 | -1.353 | 4.756 |
| 4 | 0.144 | 4.48 | -1.232 | 4.374 | 4.52 | -1.355 | 4.768 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.51 | -1.205 | 4.247 | 4.53 | -1.155 | 4.058 |
| 1 | 0.144 | 4.51 | -1.194 | 4.212 | 4.52 | -1.110 | 3.904 |
| 2 | 0.104 | 4.52 | -1.330 | 4.682 | 4.51 | -1.136 | 4.011 |
| 2 | 0.144 | 4.52 | -1.345 | 4.734 | 4.50 | -1.150 | 4.062 |
| 3 | 0.104 | 4.51 | -1.541 | 5.430 | 4.50 | -1.241 | 4.386 |
| 3 | 0.144 | 4.50 | -1.514 | 5.352 | 4.48 | -1.194 | 4.239 |
| 4 | 0.104 | 4.52 | -1.720 | 6.049 | 4.51 | -1.335 | 4.704 |
| 4 | 0.144 | 4.52 | -1.747 | 6.140 | 4.51 | -1.320 | 4.659 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|-----------|----------|----------|------------|----------|---------------|----------------|-------------|
| 34 | 0.106 | 45.0 | -5.0 | -0.9 | 0.020249 | -0.000047 | -0.000313 |
| 7 | 0.002392 | 425.0 | 4.1 | 0.4 | 0.000855 | 0.000041 | 0.001486 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.86 | -0.514 | 1.682 | 4.85 | -0.528 | 1.730 |
| 1 | 0.144 | 4.86 | -0.504 | 1.652 | 4.85 | -0.518 | 1.699 |
| 2 | 0.104 | 4.88 | -0.587 | 1.917 | 4.87 | -0.631 | 2.061 |
| 2 | 0.144 | 4.87 | -0.582 | 1.900 | 4.86 | -0.628 | 2.053 |
| 3 | 0.104 | 4.84 | -0.647 | 2.127 | 4.83 | -0.595 | 1.960 |
| 3 | 0.144 | 4.84 | -0.643 | 2.115 | 4.83 | -0.595 | 1.959 |
| 4 | 0.104 | 4.86 | -0.584 | 1.912 | 4.85 | -0.571 | 1.872 |
| 4 | 0.144 | 4.86 | -0.577 | 1.889 | 4.85 | -0.559 | 1.835 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.82 | -0.528 | 1.741 | 4.82 | -0.522 | 1.723 |
| 1 | 0.144 | 4.82 | -0.519 | 1.713 | 4.82 | -0.510 | 1.685 |
| 2 | 0.104 | 4.82 | -0.665 | 2.197 | 4.81 | -0.686 | 2.267 |
| 2 | 0.144 | 4.82 | -0.658 | 2.174 | 4.81 | -0.669 | 2.212 |
| 3 | 0.104 | 4.84 | -0.649 | 2.135 | 4.84 | -0.676 | 2.226 |
| 3 | 0.144 | 4.84 | -0.636 | 2.096 | 4.83 | -0.655 | 2.158 |
| 4 | 0.104 | 4.84 | -0.586 | 1.928 | 4.83 | -0.580 | 1.912 |
| 4 | 0.144 | 4.84 | -0.573 | 1.887 | 4.83 | -0.567 | 1.868 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.82 | -0.554 | 1.830 | 4.82 | -0.548 | 1.809 |
| 1 | 0.144 | 4.82 | -0.543 | 1.794 | 4.82 | -0.537 | 1.773 |
| 2 | 0.104 | 4.83 | -0.629 | 2.074 | 4.81 | -0.676 | 2.235 |
| 2 | 0.144 | 4.82 | -0.619 | 2.042 | 4.81 | -0.661 | 2.186 |
| 3 | 0.104 | 4.84 | -0.656 | 2.157 | 4.82 | -0.639 | 2.107 |
| 3 | 0.144 | 4.83 | -0.652 | 2.146 | 4.82 | -0.638 | 2.104 |
| 4 | 0.104 | 4.85 | -0.546 | 1.793 | 4.84 | -0.585 | 1.924 |
| 4 | 0.144 | 4.84 | -0.534 | 1.753 | 4.83 | -0.567 | 1.865 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/S CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|--------------|-------------|-------------|---------------|------------|--------------------|-------------------|----------------|
| 34 | 0.1064 | 45.1 | -5.0 | -1.5 | 0.039677 | -0.000385 | -0.000215 |
| 8 | 0.002387 | 424.1 | 5.7 | 0.8 | 0.002568 | -0.000260 | 0.002021 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.76 | -0.551 | 1.841 | 4.75 | -0.563 | 1.885 |
| 1 | 0.144 | 4.76 | -0.535 | 1.790 | 4.75 | -0.543 | 1.817 |
| 2 | 0.104 | 4.76 | -0.596 | 1.994 | 4.75 | -0.631 | 2.114 |
| 2 | 0.144 | 4.75 | -0.576 | 1.927 | 4.74 | -0.605 | 2.029 |
| 3 | 0.104 | 4.77 | -0.737 | 2.459 | 4.76 | -0.734 | 2.456 |
| 3 | 0.144 | 4.76 | -0.719 | 2.399 | 4.75 | -0.711 | 2.379 |
| 4 | 0.104 | 4.78 | -0.540 | 1.800 | 4.78 | -0.556 | 1.853 |
| 4 | 0.144 | 4.78 | -0.520 | 1.731 | 4.77 | -0.532 | 1.775 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/S CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 34 | 0.1064 | 45.1 | -5.0 | -1.5 | 0.039677 | -0.000385 | -0.000215 |
| 8 | 0.002387 | 424.1 | 5.7 | 0.8 | 0.002568 | -0.000260 | 0.002021 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.74 | -0.558 | 1.875 | 4.72 | -0.582 | 1.961 |
| 1 | 0.144 | 4.73 | -0.531 | 1.786 | 4.72 | -0.551 | 1.857 |
| 2 | 0.104 | 4.72 | -0.651 | 2.193 | 4.71 | -0.642 | 2.166 |
| 2 | 0.144 | 4.72 | -0.619 | 2.088 | 4.71 | -0.611 | 2.063 |
| 3 | 0.104 | 4.75 | -0.717 | 2.403 | 4.74 | -0.776 | 2.608 |
| 3 | 0.144 | 4.74 | -0.683 | 2.291 | 4.73 | -0.723 | 2.431 |
| 4 | 0.104 | 4.75 | -0.575 | 1.927 | 4.74 | -0.595 | 1.996 |
| 4 | 0.144 | 4.74 | -0.542 | 1.817 | 4.74 | -0.558 | 1.875 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/S CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 34 | 0.1064 | 45.1 | -5.0 | -1.5 | 0.039677 | -0.000385 | -0.000215 |
| 8 | 0.002387 | 424.1 | 5.7 | 0.8 | 0.002568 | -0.000260 | 0.002021 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.73 | -0.535 | 1.798 | 4.72 | -0.555 | 1.870 |
| 1 | 0.144 | 4.73 | -0.513 | 1.726 | 4.72 | -0.531 | 1.789 |
| 2 | 0.104 | 4.72 | -0.684 | 2.308 | 4.71 | -0.684 | 2.312 |
| 2 | 0.144 | 4.72 | -0.655 | 2.209 | 4.71 | -0.653 | 2.207 |
| 3 | 0.104 | 4.74 | -0.696 | 2.336 | 4.73 | -0.709 | 2.385 |
| 3 | 0.144 | 4.74 | -0.667 | 2.239 | 4.73 | -0.674 | 2.269 |
| 4 | 0.104 | 4.75 | -0.589 | 1.973 | 4.74 | -0.610 | 2.048 |
| 4 | 0.144 | 4.74 | -0.552 | 1.853 | 4.74 | -0.567 | 1.904 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/S CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|--------------|-------------|-------------|---------------|------------|--------------------|-------------------|----------------|
| 34 | 0.1066 | 45.3 | -5.0 | -1.8 | 0.059087 | -0.000695 | -0.000080 |
| 9 | 0.002385 | 425.2 | 7.5 | 1.3 | 0.004267 | -0.000080 | 0.002783 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.67 | -0.563 | 1.918 | 4.67 | -0.572 | 1.950 |
| 1 | 0.144 | 4.67 | -0.547 | 1.862 | 4.67 | -0.549 | 1.873 |
| 2 | 0.104 | 4.66 | -0.664 | 2.267 | 4.65 | -0.661 | 2.262 |
| 2 | 0.144 | 4.66 | -0.650 | 2.221 | 4.65 | -0.647 | 2.214 |
| 3 | 0.104 | 4.67 | -0.708 | 2.412 | 4.66 | -0.729 | 2.490 |
| 3 | 0.144 | 4.67 | -0.684 | 2.331 | 4.66 | -0.689 | 2.351 |
| 4 | 0.104 | 4.68 | -0.676 | 2.298 | 4.67 | -0.672 | 2.289 |
| 4 | 0.144 | 4.68 | -0.657 | 2.233 | 4.67 | -0.646 | 2.203 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/S CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 34 | 0.1066 | 45.3 | -5.0 | -1.8 | 0.059087 | -0.000695 | -0.000080 |
| 9 | 0.002385 | 425.2 | 7.5 | 1.3 | 0.004267 | -0.000080 | 0.002783 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.68 | -0.559 | 1.901 | 4.67 | -0.587 | 1.998 |
| 1 | 0.144 | 4.68 | -0.542 | 1.845 | 4.67 | -0.564 | 1.923 |
| 2 | 0.104 | 4.65 | -0.625 | 2.137 | 4.65 | -0.623 | 2.132 |
| 2 | 0.144 | 4.66 | -0.612 | 2.091 | 4.65 | -0.609 | 2.082 |
| 3 | 0.104 | 4.68 | -0.664 | 2.259 | 4.67 | -0.714 | 2.432 |
| 3 | 0.144 | 4.68 | -0.647 | 2.199 | 4.67 | -0.691 | 2.354 |
| 4 | 0.104 | 4.68 | -0.657 | 2.236 | 4.67 | -0.657 | 2.238 |
| 4 | 0.144 | 4.68 | -0.635 | 2.160 | 4.67 | -0.632 | 2.153 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/S CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 34 | 0.1066 | 45.3 | -5.0 | -1.8 | 0.059087 | -0.000695 | -0.000080 |
| 9 | 0.002385 | 425.2 | 7.5 | 1.3 | 0.004267 | -0.000080 | 0.002783 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.67 | -0.536 | 1.825 | 4.67 | -0.557 | 1.898 |
| 1 | 0.144 | 4.67 | -0.519 | 1.768 | 4.67 | -0.536 | 1.827 |
| 2 | 0.104 | 4.66 | -0.656 | 2.242 | 4.65 | -0.657 | 2.246 |
| 2 | 0.144 | 4.66 | -0.642 | 2.192 | 4.65 | -0.642 | 2.194 |
| 3 | 0.104 | 4.67 | -0.678 | 2.312 | 4.66 | -0.700 | 2.387 |
| 3 | 0.144 | 4.67 | -0.665 | 2.267 | 4.66 | -0.683 | 2.330 |
| 4 | 0.104 | 4.69 | -0.655 | 2.223 | 4.68 | -0.665 | 2.264 |
| 4 | 0.144 | 4.68 | -0.632 | 2.147 | 4.68 | -0.641 | 2.180 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|-----------|----------|----------|------------|----------|---------------|----------------|-------------|
| 22 | 0.1054 | 44.8 | -5.0 | -2.2 | 0.069196 | -0.001740 | -0.000038 |
| 18 | 0.002342 | 425.3 | 8.3 | 1.4 | 0.004435 | -0.000288 | 0.003493 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.65 | -0.638 | 2.183 | 4.65 | -0.645 | 2.209 |
| 1 | 0.144 | 4.65 | -0.617 | 2.112 | 4.64 | -0.624 | 2.140 |
| 2 | 0.104 | 4.64 | -0.719 | 2.462 | 4.64 | -0.754 | 2.587 |
| 2 | 0.144 | 4.64 | -0.703 | 2.409 | 4.64 | -0.734 | 2.520 |
| 3 | 0.104 | 4.64 | -0.637 | 2.183 | 4.64 | -0.663 | 2.274 |
| 3 | 0.144 | 4.64 | -0.625 | 2.140 | 4.64 | -0.649 | 2.226 |
| 4 | 0.104 | 4.66 | -0.685 | 2.338 | 4.65 | -0.700 | 2.392 |
| 4 | 0.144 | 4.66 | -0.667 | 2.278 | 4.65 | -0.682 | 2.333 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.65 | -0.612 | 2.091 | 4.65 | -0.630 | 2.157 |
| 1 | 0.144 | 4.65 | -0.591 | 2.021 | 4.65 | -0.601 | 2.059 |
| 2 | 0.104 | 4.64 | -0.687 | 2.354 | 4.63 | -0.680 | 2.335 |
| 2 | 0.144 | 4.64 | -0.674 | 2.310 | 4.63 | -0.665 | 2.283 |
| 3 | 0.104 | 4.65 | -0.747 | 2.556 | 4.64 | -0.774 | 2.652 |
| 3 | 0.144 | 4.65 | -0.729 | 2.494 | 4.64 | -0.730 | 2.504 |
| 4 | 0.104 | 4.66 | -0.722 | 2.466 | 4.66 | -0.720 | 2.463 |
| 4 | 0.144 | 4.66 | -0.705 | 2.406 | 4.65 | -0.694 | 2.373 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.65 | -0.620 | 2.121 | 4.65 | -0.638 | 2.183 |
| 1 | 0.144 | 4.65 | -0.601 | 2.056 | 4.64 | -0.608 | 2.085 |
| 2 | 0.104 | 4.65 | -0.687 | 2.351 | 4.64 | -0.692 | 2.375 |
| 2 | 0.144 | 4.65 | -0.674 | 2.309 | 4.64 | -0.677 | 2.324 |
| 3 | 0.104 | 4.64 | -0.724 | 2.481 | 4.64 | -0.735 | 2.522 |
| 3 | 0.144 | 4.64 | -0.709 | 2.429 | 4.63 | -0.706 | 2.425 |
| 4 | 0.104 | 4.66 | -0.714 | 2.437 | 4.65 | -0.722 | 2.468 |
| 4 | 0.144 | 4.66 | -0.693 | 2.366 | 4.65 | -0.696 | 2.379 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRHS/CMXHS/S | CMYH/S CP/S |
|-----------|----------|----------|------------|----------|---------------|---------------|-------------|
| 34 | 0.1068 | 45.4 | -5.0 | -2.3 | 0.079135 | -0.001351 | -0.000088 |
| 11 | 0.00238 | 425.4 | 9.2 | 1.8 | 0.006107 | -0.000252 | 0.003944 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.61 | -0.693 | 2.393 | 4.60 | -0.723 | 2.498 |
| 1 | 0.144 | 4.60 | -0.677 | 2.339 | 4.60 | -0.696 | 2.408 |
| 2 | 0.104 | 4.59 | -0.687 | 2.383 | 4.58 | -0.710 | 2.464 |
| 2 | 0.144 | 4.59 | -0.675 | 2.340 | 4.58 | -0.696 | 2.419 |
| 3 | 0.104 | 4.58 | -0.717 | 2.488 | 4.59 | -0.763 | 2.649 |
| 3 | 0.144 | 4.58 | -0.708 | 2.459 | 4.57 | -0.753 | 2.620 |
| 4 | 0.104 | 4.60 | -0.839 | 2.904 | 4.59 | -0.870 | 3.017 |
| 4 | 0.144 | 4.59 | -0.828 | 2.868 | 4.59 | -0.839 | 2.911 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.59 | -0.691 | 2.394 | 4.59 | -0.730 | 2.532 |
| 1 | 0.144 | 4.59 | -0.676 | 2.343 | 4.59 | -0.704 | 2.440 |
| 2 | 0.104 | 4.58 | -0.668 | 2.318 | 4.58 | -0.701 | 2.438 |
| 2 | 0.144 | 4.58 | -0.657 | 2.281 | 4.58 | -0.698 | 2.428 |
| 3 | 0.104 | 4.57 | -0.778 | 2.711 | 4.56 | -0.819 | 2.857 |
| 3 | 0.144 | 4.57 | -0.765 | 2.667 | 4.56 | -0.790 | 2.758 |
| 4 | 0.104 | 4.59 | -0.787 | 2.727 | 4.59 | -0.814 | 2.824 |
| 4 | 0.144 | 4.59 | -0.774 | 2.684 | 4.59 | -0.806 | 2.794 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.59 | -0.712 | 2.466 | 4.60 | -0.678 | 2.347 |
| 1 | 0.144 | 4.59 | -0.701 | 2.429 | 4.59 | -0.653 | 2.263 |
| 2 | 0.104 | 4.60 | -0.740 | 2.561 | 4.59 | -0.748 | 2.592 |
| 2 | 0.144 | 4.60 | -0.738 | 2.554 | 4.59 | -0.736 | 2.551 |
| 3 | 0.104 | 4.58 | -0.770 | 2.676 | 4.58 | -0.734 | 2.550 |
| 3 | 0.144 | 4.57 | -0.766 | 2.664 | 4.57 | -0.719 | 2.506 |
| 4 | 0.104 | 4.61 | -0.854 | 2.944 | 4.60 | -0.886 | 3.066 |
| 4 | 0.144 | 4.61 | -0.843 | 2.908 | 4.60 | -0.857 | 2.967 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|-----------|----------|----------|------------|----------|---------------|----------------|-------------|
| 34 | 0.1074 | 45.7 | -5.0 | -2.8 | 0.098931 | -0.002305 | -0.000399 |
| 13 | 0.002378 | 425.3 | 10.8 | 2.5 | 0.008002 | -0.000552 | 0.005414 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.56 | -0.992 | 3.457 | 4.56 | -1.041 | 3.633 |
| 1 | 0.144 | 4.56 | -0.990 | 3.454 | 4.55 | -0.980 | 3.425 |
| 2 | 0.104 | 4.52 | -1.183 | 4.163 | 4.51 | -0.978 | 3.450 |
| 2 | 0.144 | 4.52 | -1.181 | 4.152 | 4.51 | -0.975 | 3.443 |
| 3 | 0.104 | 4.53 | -0.961 | 3.373 | 4.53 | -1.001 | 3.517 |
| 3 | 0.144 | 4.53 | -0.930 | 3.267 | 4.52 | -0.956 | 3.365 |
| 4 | 0.104 | 4.52 | -1.254 | 4.410 | 4.51 | -1.145 | 4.035 |
| 4 | 0.144 | 4.52 | -1.239 | 4.359 | 4.51 | -1.155 | 4.075 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.55 | -0.990 | 3.462 | 4.55 | -0.993 | 3.474 |
| 1 | 0.144 | 4.54 | -0.981 | 3.436 | 4.54 | -0.974 | 3.411 |
| 2 | 0.104 | 4.52 | -1.153 | 4.062 | 4.51 | -1.036 | 3.658 |
| 2 | 0.144 | 4.51 | -1.154 | 4.065 | 4.50 | -0.988 | 3.491 |
| 3 | 0.104 | 4.52 | -1.023 | 3.603 | 4.52 | -1.031 | 3.633 |
| 3 | 0.144 | 4.51 | -1.002 | 3.530 | 4.50 | -1.038 | 3.666 |
| 4 | 0.104 | 4.50 | -1.321 | 4.663 | 4.51 | -1.228 | 4.331 |
| 4 | 0.144 | 4.50 | -1.279 | 4.516 | 4.50 | -1.207 | 4.262 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.55 | -0.985 | 3.446 | 4.55 | -1.030 | 3.603 |
| 1 | 0.144 | 4.54 | -0.977 | 3.422 | 4.55 | -0.962 | 3.367 |
| 2 | 0.104 | 4.51 | -1.133 | 3.990 | 4.51 | -0.999 | 3.525 |
| 2 | 0.144 | 4.51 | -1.127 | 3.972 | 4.50 | -0.984 | 3.476 |
| 3 | 0.104 | 4.53 | -1.013 | 3.558 | 4.51 | -1.149 | 4.054 |
| 3 | 0.144 | 4.52 | -1.002 | 3.525 | 4.51 | -1.018 | 3.587 |
| 4 | 0.104 | 4.50 | -1.298 | 4.587 | 4.50 | -1.147 | 4.052 |
| 4 | 0.144 | 4.50 | -1.290 | 4.552 | 4.50 | -1.141 | 4.031 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|-----------|----------|----------|------------|----------|---------------|----------------|-------------|
| 22 | 0.1411 | 60.1 | -5.0 | -0.8 | 0.019371 | 0.000029 | 0.000007 |
| 5 | 0.002359 | 425.9 | 4.1 | 0.3 | 0.000457 | -0.000198 | 0.001513 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.84 | -0.574 | 1.888 | 4.84 | -0.560 | 1.844 |
| 1 | 0.144 | 4.84 | -0.568 | 1.870 | 4.83 | -0.554 | 1.825 |
| 2 | 0.104 | 4.85 | -0.656 | 2.154 | 4.84 | -0.664 | 2.182 |
| 2 | 0.144 | 4.85 | -0.627 | 2.058 | 4.85 | -0.624 | 2.051 |
| 3 | 0.104 | 4.84 | -0.683 | 2.245 | 4.85 | -0.653 | 2.144 |
| 3 | 0.144 | 4.84 | -0.670 | 2.203 | 4.85 | -0.641 | 2.104 |
| 4 | 0.104 | 4.86 | -0.546 | 1.787 | 4.86 | -0.571 | 1.872 |
| 4 | 0.144 | 4.86 | -0.540 | 1.768 | 4.86 | -0.562 | 1.842 |
| Blade no. | r/R | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 22 | 0.1411 | 60.1 | -5.0 | -0.8 | 0.019371 | 0.000029 | 0.000007 |
| 5 | 0.002359 | 425.9 | 4.1 | 0.3 | 0.000457 | -0.000198 | 0.001513 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.84 | -0.516 | 1.694 | 4.84 | -0.514 | 1.691 |
| 1 | 0.144 | 4.84 | -0.513 | 1.686 | 4.84 | -0.511 | 1.681 |
| 2 | 0.104 | 4.86 | -0.642 | 2.103 | 4.84 | -0.664 | 2.183 |
| 2 | 0.144 | 4.85 | -0.634 | 2.080 | 4.84 | -0.654 | 2.151 |
| 3 | 0.104 | 4.84 | -0.637 | 2.094 | 4.84 | -0.613 | 2.017 |
| 3 | 0.144 | 4.84 | -0.627 | 2.060 | 4.84 | -0.615 | 2.019 |
| 4 | 0.104 | 4.86 | -0.540 | 1.766 | 4.86 | -0.567 | 1.858 |
| 4 | 0.144 | 4.86 | -0.535 | 1.749 | 4.86 | -0.558 | 1.827 |
| Blade no. | r/R | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 22 | 0.1411 | 60.1 | -5.0 | -0.8 | 0.019371 | 0.000029 | 0.000007 |
| 5 | 0.002359 | 425.9 | 4.1 | 0.3 | 0.000457 | -0.000198 | 0.001513 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.81 | -0.553 | 1.829 | 4.81 | -0.564 | 1.866 |
| 1 | 0.144 | 4.81 | -0.542 | 1.793 | 4.81 | -0.558 | 1.847 |
| 2 | 0.104 | 4.82 | -0.672 | 2.219 | 4.81 | -0.694 | 2.297 |
| 2 | 0.144 | 4.82 | -0.657 | 2.172 | 4.81 | -0.674 | 2.232 |
| 3 | 0.104 | 4.83 | -0.665 | 2.191 | 4.82 | -0.680 | 2.244 |
| 3 | 0.144 | 4.83 | -0.650 | 2.139 | 4.82 | -0.668 | 2.204 |
| 4 | 0.104 | 4.83 | -0.545 | 1.796 | 4.82 | -0.556 | 1.835 |
| 4 | 0.144 | 4.83 | -0.535 | 1.763 | 4.82 | -0.545 | 1.800 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|-----------|----------|----------|------------|----------|---------------|----------------|-------------|
| 22 | 0.1416 | 60.2 | -5.0 | -1.1 | 0.039289 | -0.000264 | -0.000089 |
| 6 | 0.002354 | 425.2 | 5.7 | 0.9 | 0.002288 | -0.000238 | 0.002024 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.76 | -0.524 | 1.754 | 4.75 | -0.525 | 1.758 |
| 1 | 0.144 | 4.76 | -0.511 | 1.709 | 4.75 | -0.491 | 1.646 |
| 2 | 0.104 | 4.75 | -0.624 | 2.091 | 4.74 | -0.627 | 2.104 |
| 2 | 0.144 | 4.75 | -0.601 | 2.016 | 4.74 | -0.604 | 2.027 |
| 3 | 0.104 | 4.77 | -0.700 | 2.333 | 4.76 | -0.707 | 2.363 |
| 3 | 0.144 | 4.77 | -0.678 | 2.260 | 4.76 | -0.685 | 2.288 |
| 4 | 0.104 | 4.77 | -0.537 | 1.789 | 4.77 | -0.554 | 1.850 |
| 4 | 0.144 | 4.77 | -0.518 | 1.728 | 4.76 | -0.530 | 1.771 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 22 | 0.1416 | 60.2 | -5.0 | -1.1 | 0.039289 | -0.000264 | -0.000089 |
| 6 | 0.002354 | 425.2 | 5.7 | 0.9 | 0.002288 | -0.000238 | 0.002024 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.77 | -0.555 | 1.853 | 4.76 | -0.575 | 1.924 |
| 1 | 0.144 | 4.76 | -0.536 | 1.792 | 4.76 | -0.555 | 1.856 |
| 2 | 0.104 | 4.75 | -0.584 | 1.955 | 4.74 | -0.604 | 2.027 |
| 2 | 0.144 | 4.75 | -0.562 | 1.882 | 4.74 | -0.577 | 1.938 |
| 3 | 0.104 | 4.77 | -0.734 | 2.447 | 4.75 | -0.732 | 2.451 |
| 3 | 0.144 | 4.77 | -0.711 | 2.373 | 4.75 | -0.710 | 2.378 |
| 4 | 0.104 | 4.78 | -0.540 | 1.800 | 4.77 | -0.558 | 1.860 |
| 4 | 0.144 | 4.77 | -0.520 | 1.735 | 4.77 | -0.532 | 1.775 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 22 | 0.1416 | 60.2 | -5.0 | -1.1 | 0.039289 | -0.000264 | -0.000089 |
| 6 | 0.002354 | 425.2 | 5.7 | 0.9 | 0.002288 | -0.000238 | 0.002024 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.73 | -0.530 | 1.784 | 4.72 | -0.537 | 1.808 |
| 1 | 0.144 | 4.73 | -0.500 | 1.682 | 4.72 | -0.501 | 1.688 |
| 2 | 0.104 | 4.74 | -0.626 | 2.102 | 4.73 | -0.644 | 2.166 |
| 2 | 0.144 | 4.74 | -0.596 | 2.002 | 4.73 | -0.611 | 2.058 |
| 3 | 0.104 | 4.74 | -0.715 | 2.402 | 4.72 | -0.709 | 2.389 |
| 3 | 0.144 | 4.73 | -0.677 | 2.276 | 4.73 | -0.670 | 2.255 |
| 4 | 0.104 | 4.76 | -0.551 | 1.839 | 4.75 | -0.573 | 1.918 |
| 4 | 0.144 | 4.76 | -0.522 | 1.746 | 4.75 | -0.540 | 1.808 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|-----------|----------|----------|------------|----------|---------------|----------------|-------------|
| 22 | 0.142 | 60.4 | -5.0 | -1.4 | 0.059669 | -0.000680 | -0.000184 |
| 7 | 0.002351 | 425.2 | 7.4 | 1.6 | 0.004182 | -0.000277 | 0.002836 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.68 | -0.568 | 1.932 | 4.67 | -0.582 | 1.985 |
| 1 | 0.144 | 4.68 | -0.545 | 1.857 | 4.67 | -0.551 | 1.877 |
| 2 | 0.104 | 4.67 | -0.613 | 2.091 | 4.66 | -0.616 | 2.103 |
| 2 | 0.144 | 4.67 | -0.599 | 2.042 | 4.66 | -0.598 | 2.043 |
| 3 | 0.104 | 4.67 | -0.748 | 2.547 | 4.66 | -0.763 | 2.605 |
| 3 | 0.144 | 4.67 | -0.725 | 2.469 | 4.66 | -0.725 | 2.474 |
| 4 | 0.104 | 4.70 | -0.656 | 2.224 | 4.69 | -0.664 | 2.255 |
| 4 | 0.144 | 4.69 | -0.630 | 2.136 | 4.68 | -0.631 | 2.142 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 22 | 0.142 | 60.4 | -5.0 | -1.4 | 0.059669 | -0.000680 | -0.000184 |
| 7 | 0.002351 | 425.2 | 7.4 | 1.6 | 0.004182 | -0.000277 | 0.002836 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.68 | -0.538 | 1.832 | 4.67 | -0.528 | 1.800 |
| 1 | 0.144 | 4.67 | -0.520 | 1.769 | 4.67 | -0.506 | 1.724 |
| 2 | 0.104 | 4.67 | -0.626 | 2.134 | 4.66 | -0.637 | 2.173 |
| 2 | 0.144 | 4.67 | -0.611 | 2.083 | 4.66 | -0.623 | 2.126 |
| 3 | 0.104 | 4.66 | -0.714 | 2.435 | 4.66 | -0.696 | 2.377 |
| 3 | 0.144 | 4.66 | -0.689 | 2.354 | 4.66 | -0.669 | 2.286 |
| 4 | 0.104 | 4.70 | -0.665 | 2.250 | 4.69 | -0.692 | 2.345 |
| 4 | 0.144 | 4.70 | -0.644 | 2.180 | 4.69 | -0.666 | 2.258 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 22 | 0.142 | 60.4 | -5.0 | -1.4 | 0.059669 | -0.000680 | -0.000184 |
| 7 | 0.002351 | 425.2 | 7.4 | 1.6 | 0.004182 | -0.000277 | 0.002836 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.68 | -0.527 | 1.791 | 4.68 | -0.543 | 1.846 |
| 1 | 0.144 | 4.68 | -0.505 | 1.716 | 4.68 | -0.515 | 1.753 |
| 2 | 0.104 | 4.67 | -0.640 | 2.182 | 4.66 | -0.651 | 2.224 |
| 2 | 0.144 | 4.67 | -0.620 | 2.112 | 4.66 | -0.625 | 2.133 |
| 3 | 0.104 | 4.68 | -0.685 | 2.331 | 4.67 | -0.711 | 2.424 |
| 3 | 0.144 | 4.68 | -0.660 | 2.246 | 4.67 | -0.674 | 2.296 |
| 4 | 0.104 | 4.69 | -0.675 | 2.288 | 4.68 | -0.680 | 2.309 |
| 4 | 0.144 | 4.69 | -0.650 | 2.204 | 4.68 | -0.648 | 2.201 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S | CLRHS/S CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|--------------|-------------|-------------|---------------|----------|--------------------|-------------------|----------------|
| 22 | 0.142 | 60.4 | -5.0 | -1.6 | 0.068809 | -0.000971 | -0.000174 |
| 8 | 0.002349 | 425.9 | 8.2 | 1.9 | 0.005065 | -0.000298 | 0.003284 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.67 | -0.584 | 1.989 | 4.66 | -0.593 | 2.024 |
| 1 | 0.144 | 4.67 | -0.566 | 1.930 | 4.66 | -0.569 | 1.943 |
| 2 | 0.104 | 4.64 | -0.599 | 2.054 | 4.64 | -0.602 | 2.067 |
| 2 | 0.144 | 4.64 | -0.590 | 2.021 | 4.64 | -0.589 | 2.022 |
| 3 | 0.104 | 4.66 | -0.766 | 2.617 | 4.64 | -0.778 | 2.666 |
| 3 | 0.144 | 4.65 | -0.749 | 2.560 | 4.64 | -0.751 | 2.574 |
| 4 | 0.104 | 4.67 | -0.717 | 2.442 | 4.66 | -0.694 | 2.368 |
| 4 | 0.144 | 4.67 | -0.705 | 2.402 | 4.66 | -0.677 | 2.309 |
| Blade no. | r/R | VKTS RPM | ALPHA COLL | A1S | CLRHS/S CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 22 | 0.142 | 60.4 | -5.0 | -1.6 | 0.068809 | -0.000971 | -0.000174 |
| 8 | 0.002349 | 425.9 | 8.2 | 1.9 | 0.005065 | -0.000298 | 0.003284 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.66 | -0.570 | 1.944 | 4.66 | -0.589 | 2.013 |
| 1 | 0.144 | 4.66 | -0.552 | 1.885 | 4.66 | -0.567 | 1.936 |
| 2 | 0.104 | 4.64 | -0.630 | 2.160 | 4.64 | -0.618 | 2.120 |
| 2 | 0.144 | 4.64 | -0.619 | 2.123 | 4.64 | -0.600 | 2.060 |
| 3 | 0.104 | 4.64 | -0.688 | 2.357 | 4.64 | -0.695 | 2.385 |
| 3 | 0.144 | 4.64 | -0.671 | 2.300 | 4.64 | -0.675 | 2.314 |
| 4 | 0.104 | 4.66 | -0.726 | 2.478 | 4.65 | -0.735 | 2.513 |
| 4 | 0.144 | 4.66 | -0.707 | 2.414 | 4.65 | -0.710 | 2.427 |
| Blade no. | r/R | VKTS RPM | ALPHA COLL | A1S | CLRHS/S CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 22 | 0.142 | 60.4 | -5.0 | -1.6 | 0.068809 | -0.000971 | -0.000174 |
| 8 | 0.002349 | 425.9 | 8.2 | 1.9 | 0.005065 | -0.000298 | 0.003284 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.66 | -0.590 | 2.016 | 4.65 | -0.610 | 2.087 |
| 1 | 0.144 | 4.66 | -0.572 | 1.953 | 4.65 | -0.583 | 1.996 |
| 2 | 0.104 | 4.63 | -0.564 | 1.937 | 4.63 | -0.562 | 1.930 |
| 2 | 0.144 | 4.63 | -0.555 | 1.906 | 4.63 | -0.549 | 1.888 |
| 3 | 0.104 | 4.64 | -0.752 | 2.576 | 4.64 | -0.781 | 2.680 |
| 3 | 0.144 | 4.64 | -0.737 | 2.526 | 4.63 | -0.750 | 2.575 |
| 4 | 0.104 | 4.66 | -0.700 | 2.392 | 4.65 | -0.687 | 2.350 |
| 4 | 0.144 | 4.66 | -0.690 | 2.356 | 4.65 | -0.669 | 2.288 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|-----------|----------|----------|------------|----------|---------------|----------------|-------------|
| 14 | 0.1414 | 60.1 | -5.0 | -1.6 | 0.069594 | -0.000928 | -0.000038 |
| 7 | 0.002381 | 425.4 | 8.2 | 1.9 | 0.005559 | -0.000183 | 0.003290 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.74 | -0.634 | 2.127 | 4.74 | -0.668 | 2.243 |
| 1 | 0.144 | 4.74 | -0.596 | 2.001 | 4.73 | -0.599 | 2.015 |
| 2 | 0.104 | 4.73 | -0.760 | 2.558 | 4.71 | -0.787 | 2.655 |
| 2 | 0.144 | 4.72 | -0.746 | 2.511 | 4.71 | -0.770 | 2.603 |
| 3 | 0.104 | 4.72 | -0.749 | 2.521 | 4.72 | -0.812 | 2.735 |
| 3 | 0.144 | 4.72 | -0.741 | 2.498 | 4.70 | -0.757 | 2.558 |
| 4 | 0.104 | 4.75 | -0.866 | 2.898 | 4.74 | -0.905 | 3.042 |
| 4 | 0.144 | 4.75 | -0.833 | 2.790 | 4.73 | -0.850 | 2.856 |
| Blade no. | r/R | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 14 | 0.1414 | 60.1 | -5.0 | -1.6 | 0.069594 | -0.000928 | -0.000038 |
| 7 | 0.002381 | 425.4 | 8.2 | 1.9 | 0.005559 | -0.000183 | 0.003290 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.74 | -0.598 | 2.007 | 4.74 | -0.657 | 2.206 |
| 1 | 0.144 | 4.74 | -0.570 | 1.913 | 4.74 | -0.623 | 2.094 |
| 2 | 0.104 | 4.72 | -0.705 | 2.379 | 4.70 | -0.713 | 2.411 |
| 2 | 0.144 | 4.71 | -0.694 | 2.344 | 4.70 | -0.712 | 2.410 |
| 3 | 0.104 | 4.72 | -0.762 | 2.567 | 4.71 | -0.841 | 2.840 |
| 3 | 0.144 | 4.72 | -0.742 | 2.504 | 4.70 | -0.793 | 2.682 |
| 4 | 0.104 | 4.74 | -0.853 | 2.860 | 4.73 | -0.843 | 2.835 |
| 4 | 0.144 | 4.74 | -0.828 | 2.776 | 4.73 | -0.822 | 2.763 |
| Blade no. | r/R | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 14 | 0.1414 | 60.1 | -5.0 | -1.6 | 0.069594 | -0.000928 | -0.000038 |
| 7 | 0.002381 | 425.4 | 8.2 | 1.9 | 0.005559 | -0.000183 | 0.003290 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.74 | -0.622 | 2.090 | 4.73 | -0.666 | 2.238 |
| 1 | 0.144 | 4.73 | -0.590 | 1.983 | 4.72 | -0.613 | 2.067 |
| 2 | 0.104 | 4.72 | -0.735 | 2.481 | 4.71 | -0.760 | 2.568 |
| 2 | 0.144 | 4.72 | -0.723 | 2.441 | 4.70 | -0.741 | 2.506 |
| 3 | 0.104 | 4.72 | -0.706 | 2.384 | 4.72 | -0.776 | 2.618 |
| 3 | 0.144 | 4.71 | -0.697 | 2.353 | 4.70 | -0.746 | 2.525 |
| 4 | 0.104 | 4.74 | -0.874 | 2.934 | 4.72 | -0.910 | 3.065 |
| 4 | 0.144 | 4.74 | -0.847 | 2.845 | 4.72 | -0.874 | 2.947 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/S CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|--------------|-------------|-------------|---------------|------------|--------------------|-------------------|----------------|
| 22 | 0.1423 | 60.4 | -5.0 | -1.8 | 0.078642 | -0.001264 | -0.000226 |
| 9 | 0.002348 | 424.8 | 9.0 | 2.3 | 0.005926 | -0.000305 | 0.003832 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.60 | -0.660 | 2.282 | 4.60 | -0.642 | 2.220 |
| 1 | 0.144 | 4.60 | -0.648 | 2.241 | 4.60 | -0.619 | 2.142 |
| 2 | 0.104 | 4.60 | -0.639 | 2.212 | 4.59 | -0.638 | 2.210 |
| 2 | 0.144 | 4.60 | -0.633 | 2.189 | 4.59 | -0.625 | 2.166 |
| 3 | 0.104 | 4.58 | -0.759 | 2.639 | 4.57 | -0.731 | 2.546 |
| 3 | 0.144 | 4.58 | -0.754 | 2.622 | 4.57 | -0.711 | 2.478 |
| 4 | 0.104 | 4.61 | -0.821 | 2.835 | 4.60 | -0.805 | 2.782 |
| 4 | 0.144 | 4.61 | -0.821 | 2.834 | 4.60 | -0.793 | 2.742 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/S CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 22 | 0.1423 | 60.4 | -5.0 | -1.8 | 0.078642 | -0.001264 | -0.000226 |
| 9 | 0.002348 | 424.8 | 9.0 | 2.3 | 0.005926 | -0.000305 | 0.003832 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.62 | -0.614 | 2.113 | 4.62 | -0.616 | 2.118 |
| 1 | 0.144 | 4.62 | -0.607 | 2.089 | 4.62 | -0.601 | 2.070 |
| 2 | 0.104 | 4.60 | -0.660 | 2.280 | 4.60 | -0.637 | 2.202 |
| 2 | 0.144 | 4.61 | -0.661 | 2.282 | 4.60 | -0.633 | 2.190 |
| 3 | 0.104 | 4.60 | -0.767 | 2.653 | 4.59 | -0.756 | 2.617 |
| 3 | 0.144 | 4.60 | -0.760 | 2.631 | 4.59 | -0.739 | 2.560 |
| 4 | 0.104 | 4.63 | -0.825 | 2.836 | 4.62 | -0.794 | 2.736 |
| 4 | 0.144 | 4.63 | -0.819 | 2.817 | 4.62 | -0.781 | 2.690 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/S CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 22 | 0.1423 | 60.4 | -5.0 | -1.8 | 0.078642 | -0.001264 | -0.000226 |
| 9 | 0.002348 | 424.8 | 9.0 | 2.3 | 0.005926 | -0.000305 | 0.003832 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.62 | -0.679 | 2.338 | 4.62 | -0.684 | 2.357 |
| 1 | 0.144 | 4.62 | -0.672 | 2.314 | 4.61 | -0.664 | 2.291 |
| 2 | 0.104 | 4.59 | -0.797 | 2.763 | 4.59 | -0.767 | 2.660 |
| 2 | 0.144 | 4.59 | -0.797 | 2.763 | 4.59 | -0.753 | 2.611 |
| 3 | 0.104 | 4.61 | -0.632 | 2.184 | 4.60 | -0.604 | 2.089 |
| 3 | 0.144 | 4.61 | -0.631 | 2.180 | 4.60 | -0.596 | 2.061 |
| 4 | 0.104 | 4.61 | -0.798 | 2.754 | 4.61 | -0.774 | 2.668 |
| 4 | 0.144 | 4.61 | -0.797 | 2.752 | 4.61 | -0.761 | 2.623 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S | |
|-----------|----------|----------|------------|------------|---------------|----------------|----------------|-------------|
| 22 | 0.1429 | 60.6 | -5.0 | -2.2 | 0.098767 | -0.002060 | -0.000100 | |
| 10 | 0.002346 | 424.2 | 10.7 | 3.1 | 0.007725 | -0.000454 | 0.005178 | |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. | |
| 1 | 0.104 | 4.53 | -1.002 | 3.516 | 4.54 | -0.918 | 3.213 | |
| 1 | 0.144 | 4.53 | -1.012 | 3.553 | 4.54 | -0.883 | 3.094 | |
| 2 | 0.104 | 4.54 | -0.968 | 3.395 | 4.53 | -0.893 | 3.139 | |
| 2 | 0.144 | 4.53 | -0.967 | 3.394 | 4.52 | -0.895 | 3.148 | |
| 3 | 0.104 | 4.53 | -0.959 | 3.371 | 4.51 | -0.898 | 3.168 | |
| 3 | 0.144 | 4.52 | -0.946 | 3.328 | 4.50 | -0.884 | 3.122 | |
| 4 | 0.104 | 4.52 | -1.180 | 4.148 | 4.53 | -1.079 | 3.789 | |
| 4 | 0.144 | 4.53 | -1.165 | 4.092 | 4.53 | -1.074 | 3.774 | |
| Blade no. | r/R | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S | |
| 22 | 0.1429 | 60.6 | -5.0 | -2.2 | 0.098767 | -0.002060 | -0.000100 | |
| 10 | 0.002346 | 424.2 | 10.7 | 3.1 | 0.007725 | -0.000454 | 0.005178 | |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. | |
| 1 | 0.104 | 4.55 | -0.920 | 3.221 | 4.54 | -0.898 | 3.148 | |
| 1 | 0.144 | 4.54 | -0.920 | 3.222 | 4.54 | -0.868 | 3.043 | |
| 2 | 0.104 | 4.52 | -0.955 | 3.363 | 4.52 | -0.828 | 2.912 | |
| 2 | 0.144 | 4.52 | -0.948 | 3.335 | 4.52 | -0.833 | 2.932 | |
| 3 | 0.104 | 4.51 | -0.927 | 3.265 | 4.52 | -0.894 | 3.148 | |
| 3 | 0.144 | 4.51 | -0.926 | 3.267 | 4.51 | -0.902 | 3.183 | |
| 4 | 0.104 | 4.53 | -1.148 | 4.031 | 4.53 | -1.020 | 3.585 | |
| 4 | 0.144 | 4.53 | -1.126 | 3.954 | 4.52 | -1.035 | 3.638 | |
| Blade no. | r/R | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 22 | 0.1429 | 60.6 | -5.0 | -2.2 | 0.098767 | -0.002060 | -0.000100 | |
| 10 | 0.002346 | 424.2 | 10.7 | 3.1 | 0.007725 | -0.000454 | 0.005178 | |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. | |
| 1 | 0.104 | 4.54 | -0.753 | 2.642 | 4.55 | -0.873 | 3.053 | |
| 1 | 0.144 | 4.53 | -0.748 | 2.626 | 4.54 | -0.868 | 3.042 | |
| 2 | 0.104 | 4.52 | -0.755 | 2.656 | 4.51 | -0.844 | 2.975 | |
| 2 | 0.144 | 4.52 | -0.755 | 2.655 | 4.51 | -0.849 | 2.994 | |
| 3 | 0.104 | 4.52 | -0.667 | 2.347 | 4.51 | -0.879 | 3.102 | |
| 3 | 0.144 | 4.51 | -0.659 | 2.323 | 4.50 | -0.883 | 3.125 | |
| 4 | 0.104 | 4.53 | -0.943 | 3.311 | 4.52 | -1.028 | 3.612 | |
| 4 | 0.144 | 4.53 | -0.891 | 3.129 | 4.52 | -1.030 | 3.620 | |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|-----------|----------|----------|------------|----------|---------------|----------------|-------------|
| 34 | 0.1767 | 75.0 | -5.0 | -0.6 | 0.020204 | -0.000069 | 0.000104 |
| 15 | 0.002367 | 424.5 | 4.6 | 0.3 | 0.000670 | -0.000214 | 0.001528 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.82 | -0.583 | 1.928 | 4.81 | -0.578 | 1.913 |
| 1 | 0.144 | 4.82 | -0.576 | 1.904 | 4.81 | -0.576 | 1.909 |
| 2 | 0.104 | 4.81 | -0.595 | 1.968 | 4.81 | -0.600 | 1.987 |
| 2 | 0.144 | 4.80 | -0.579 | 1.918 | 4.80 | -0.581 | 1.926 |
| 3 | 0.104 | 4.83 | -0.693 | 2.284 | 4.82 | -0.671 | 2.213 |
| 3 | 0.144 | 4.83 | -0.679 | 2.237 | 4.82 | -0.664 | 2.192 |
| 4 | 0.104 | 4.82 | -0.510 | 1.684 | 4.82 | -0.510 | 1.686 |
| 4 | 0.144 | 4.82 | -0.498 | 1.647 | 4.82 | -0.488 | 1.612 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.82 | -0.586 | 1.936 | 4.81 | -0.592 | 1.959 |
| 1 | 0.144 | 4.82 | -0.576 | 1.902 | 4.81 | -0.577 | 1.910 |
| 2 | 0.104 | 4.80 | -0.605 | 2.005 | 4.80 | -0.589 | 1.951 |
| 2 | 0.144 | 4.80 | -0.590 | 1.958 | 4.80 | -0.572 | 1.897 |
| 3 | 0.104 | 4.82 | -0.717 | 2.365 | 4.81 | -0.693 | 2.293 |
| 3 | 0.144 | 4.82 | -0.705 | 2.328 | 4.81 | -0.695 | 2.298 |
| 4 | 0.104 | 4.82 | -0.536 | 1.772 | 4.82 | -0.524 | 1.732 |
| 4 | 0.144 | 4.82 | -0.529 | 1.747 | 4.82 | -0.510 | 1.685 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.81 | -0.540 | 1.785 | 4.81 | -0.551 | 1.825 |
| 1 | 0.144 | 4.81 | -0.535 | 1.768 | 4.80 | -0.545 | 1.806 |
| 2 | 0.104 | 4.80 | -0.612 | 2.029 | 4.80 | -0.603 | 2.002 |
| 2 | 0.144 | 4.80 | -0.596 | 1.977 | 4.79 | -0.585 | 1.943 |
| 3 | 0.104 | 4.84 | -0.660 | 2.172 | 4.82 | -0.683 | 2.253 |
| 3 | 0.144 | 4.83 | -0.648 | 2.135 | 4.82 | -0.668 | 2.207 |
| 4 | 0.104 | 4.82 | -0.523 | 1.729 | 4.81 | -0.516 | 1.706 |
| 4 | 0.144 | 4.82 | -0.512 | 1.692 | 4.81 | -0.505 | 1.670 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|-----------|----------|----------|------------|----------|---------------|----------------|-------------|
| 34 | 0.1765 | 75.2 | -5.0 | -0.8 | 0.039123 | -0.000257 | 0.000073 |
| 16 | 0.002366 | 426.0 | 6.1 | 1.0 | 0.002242 | -0.000116 | 0.002075 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.74 | -0.509 | 1.710 | 4.74 | -0.521 | 1.752 |
| 1 | 0.144 | 4.74 | -0.489 | 1.642 | 4.73 | -0.498 | 1.675 |
| 2 | 0.104 | 4.74 | -0.597 | 2.001 | 4.73 | -0.608 | 2.046 |
| 2 | 0.144 | 4.74 | -0.567 | 1.901 | 4.73 | -0.574 | 1.933 |
| 3 | 0.104 | 4.75 | -0.620 | 2.077 | 4.74 | -0.607 | 2.040 |
| 3 | 0.144 | 4.75 | -0.597 | 2.001 | 4.74 | -0.579 | 1.945 |
| 4 | 0.104 | 4.76 | -0.523 | 1.746 | 4.75 | -0.560 | 1.876 |
| 4 | 0.144 | 4.76 | -0.492 | 1.644 | 4.75 | -0.522 | 1.751 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.74 | -0.495 | 1.660 | 4.74 | -0.518 | 1.739 |
| 1 | 0.144 | 4.74 | -0.476 | 1.598 | 4.74 | -0.487 | 1.637 |
| 2 | 0.104 | 4.73 | -0.604 | 2.033 | 4.72 | -0.597 | 2.013 |
| 2 | 0.144 | 4.73 | -0.575 | 1.933 | 4.72 | -0.568 | 1.914 |
| 3 | 0.104 | 4.76 | -0.654 | 2.189 | 4.75 | -0.662 | 2.218 |
| 3 | 0.144 | 4.75 | -0.626 | 2.096 | 4.75 | -0.623 | 2.089 |
| 4 | 0.104 | 4.75 | -0.530 | 1.773 | 4.74 | -0.545 | 1.827 |
| 4 | 0.144 | 4.75 | -0.501 | 1.676 | 4.74 | -0.512 | 1.716 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.75 | -0.505 | 1.693 | 4.74 | -0.517 | 1.735 |
| 1 | 0.144 | 4.74 | -0.483 | 1.621 | 4.74 | -0.488 | 1.639 |
| 2 | 0.104 | 4.74 | -0.638 | 2.142 | 4.73 | -0.641 | 2.157 |
| 2 | 0.144 | 4.74 | -0.608 | 2.039 | 4.73 | -0.610 | 2.053 |
| 3 | 0.104 | 4.76 | -0.635 | 2.124 | 4.75 | -0.643 | 2.154 |
| 3 | 0.144 | 4.76 | -0.606 | 2.029 | 4.75 | -0.607 | 2.036 |
| 4 | 0.104 | 4.76 | -0.562 | 1.878 | 4.75 | -0.588 | 1.968 |
| 4 | 0.144 | 4.76 | -0.530 | 1.770 | 4.75 | -0.550 | 1.843 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|-----------|----------|----------|------------|----------|---------------|----------------|-------------|
| 34 | 0.1772 | 75.2 | -5.0 | -1.2 | 0.059006 | -0.000713 | -0.000094 |
| 17 | 0.002365 | 424.6 | 7.6 | 1.8 | 0.003999 | -0.000461 | 0.002804 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.68 | -0.510 | 1.732 | 4.68 | -0.513 | 1.746 |
| 1 | 0.144 | 4.68 | -0.490 | 1.667 | 4.68 | -0.490 | 1.669 |
| 2 | 0.104 | 4.67 | -0.630 | 2.146 | 4.66 | -0.643 | 2.194 |
| 2 | 0.144 | 4.67 | -0.607 | 2.068 | 4.66 | -0.614 | 2.094 |
| 3 | 0.104 | 4.68 | -0.632 | 2.149 | 4.67 | -0.647 | 2.203 |
| 3 | 0.144 | 4.67 | -0.609 | 2.071 | 4.67 | -0.618 | 2.105 |
| 4 | 0.104 | 4.70 | -0.633 | 2.144 | 4.69 | -0.668 | 2.267 |
| 4 | 0.144 | 4.70 | -0.599 | 2.030 | 4.69 | -0.626 | 2.123 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.69 | -0.510 | 1.730 | 4.68 | -0.543 | 1.845 |
| 1 | 0.144 | 4.69 | -0.489 | 1.661 | 4.68 | -0.516 | 1.752 |
| 2 | 0.104 | 4.66 | -0.619 | 2.112 | 4.66 | -0.605 | 2.069 |
| 2 | 0.144 | 4.66 | -0.598 | 2.040 | 4.66 | -0.586 | 2.002 |
| 3 | 0.104 | 4.69 | -0.689 | 2.338 | 4.68 | -0.727 | 2.472 |
| 3 | 0.144 | 4.69 | -0.655 | 2.225 | 4.68 | -0.665 | 2.263 |
| 4 | 0.104 | 4.70 | -0.646 | 2.187 | 4.69 | -0.666 | 2.261 |
| 4 | 0.144 | 4.70 | -0.616 | 2.087 | 4.69 | -0.626 | 2.126 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.69 | -0.536 | 1.820 | 4.68 | -0.563 | 1.913 |
| 1 | 0.144 | 4.68 | -0.514 | 1.745 | 4.68 | -0.537 | 1.825 |
| 2 | 0.104 | 4.66 | -0.605 | 2.064 | 4.66 | -0.605 | 2.066 |
| 2 | 0.144 | 4.66 | -0.582 | 1.986 | 4.66 | -0.581 | 1.983 |
| 3 | 0.104 | 4.68 | -0.698 | 2.372 | 4.67 | -0.700 | 2.384 |
| 3 | 0.144 | 4.68 | -0.667 | 2.268 | 4.67 | -0.674 | 2.297 |
| 4 | 0.104 | 4.69 | -0.620 | 2.103 | 4.68 | -0.619 | 2.105 |
| 4 | 0.144 | 4.69 | -0.587 | 1.993 | 4.68 | -0.588 | 1.997 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|-----------|----------|----------|------------|----------|---------------|----------------|-------------|
| 22 | 0.1767 | 75.2 | -5.0 | -1.3 | 0.069005 | -0.001468 | -0.000138 |
| 17 | 0.002333 | 425.5 | 8.5 | 2.2 | 0.004389 | -0.000391 | 0.003419 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.68 | -0.586 | 1.996 | 4.67 | -0.607 | 2.067 |
| 1 | 0.144 | 4.67 | -0.571 | 1.945 | 4.67 | -0.584 | 1.990 |
| 2 | 0.104 | 4.66 | -0.620 | 2.120 | 4.65 | -0.627 | 2.144 |
| 2 | 0.144 | 4.66 | -0.610 | 2.086 | 4.65 | -0.611 | 2.089 |
| 3 | 0.104 | 4.66 | -0.753 | 2.569 | 4.66 | -0.761 | 2.598 |
| 3 | 0.144 | 4.67 | -0.740 | 2.523 | 4.66 | -0.732 | 2.502 |
| 4 | 0.104 | 4.68 | -0.690 | 2.344 | 4.67 | -0.688 | 2.343 |
| 4 | 0.144 | 4.68 | -0.671 | 2.280 | 4.67 | -0.659 | 2.244 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 22 | 0.1767 | 75.2 | -5.0 | -1.3 | 0.069005 | -0.001468 | -0.000138 |
| 17 | 0.002333 | 425.5 | 8.5 | 2.2 | 0.004389 | -0.000391 | 0.003419 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.67 | -0.562 | 1.914 | 4.67 | -0.547 | 1.863 |
| 1 | 0.144 | 4.67 | -0.547 | 1.864 | 4.67 | -0.529 | 1.802 |
| 2 | 0.104 | 4.66 | -0.630 | 2.151 | 4.65 | -0.629 | 2.151 |
| 2 | 0.144 | 4.66 | -0.623 | 2.127 | 4.65 | -0.613 | 2.098 |
| 3 | 0.104 | 4.66 | -0.728 | 2.485 | 4.66 | -0.729 | 2.492 |
| 3 | 0.144 | 4.66 | -0.710 | 2.425 | 4.66 | -0.706 | 2.412 |
| 4 | 0.104 | 4.69 | -0.681 | 2.311 | 4.69 | -0.681 | 2.311 |
| 4 | 0.144 | 4.69 | -0.664 | 2.255 | 4.69 | -0.655 | 2.223 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 22 | 0.1767 | 75.2 | -5.0 | -1.3 | 0.069005 | -0.001468 | -0.000138 |
| 17 | 0.002333 | 425.5 | 8.5 | 2.2 | 0.004389 | -0.000391 | 0.003419 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.68 | -0.606 | 2.062 | 4.67 | -0.599 | 2.041 |
| 1 | 0.144 | 4.68 | -0.592 | 2.014 | 4.67 | -0.582 | 1.985 |
| 2 | 0.104 | 4.66 | -0.617 | 2.108 | 4.66 | -0.617 | 2.108 |
| 2 | 0.144 | 4.66 | -0.610 | 2.084 | 4.66 | -0.604 | 2.064 |
| 3 | 0.104 | 4.67 | -0.819 | 2.791 | 4.66 | -0.811 | 2.771 |
| 3 | 0.144 | 4.66 | -0.805 | 2.745 | 4.66 | -0.790 | 2.700 |
| 4 | 0.104 | 4.69 | -0.710 | 2.408 | 4.68 | -0.684 | 2.324 |
| 4 | 0.144 | 4.69 | -0.695 | 2.359 | 4.68 | -0.666 | 2.264 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|-----------|----------|----------|------------|----------|---------------|----------------|-------------|
| 34 | 0.1773 | 75.4 | -5.0 | -1.3 | 0.079482 | -0.001042 | -0.000216 |
| 19 | 0.002365 | 425.5 | 9.3 | 2.6 | 0.005773 | -0.000215 | 0.003790 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.63 | -0.612 | 2.105 | 4.63 | -0.603 | 2.074 |
| 1 | 0.144 | 4.63 | -0.596 | 2.052 | 4.62 | -0.577 | 1.986 |
| 2 | 0.104 | 4.62 | -0.673 | 2.318 | 4.61 | -0.697 | 2.404 |
| 2 | 0.144 | 4.62 | -0.663 | 2.284 | 4.61 | -0.674 | 2.327 |
| 3 | 0.104 | 4.60 | -0.744 | 2.575 | 4.60 | -0.711 | 2.457 |
| 3 | 0.144 | 4.60 | -0.736 | 2.544 | 4.60 | -0.687 | 2.375 |
| 4 | 0.104 | 4.64 | -0.770 | 2.642 | 4.63 | -0.798 | 2.741 |
| 4 | 0.144 | 4.64 | -0.762 | 2.617 | 4.63 | -0.771 | 2.648 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 34 | 0.1773 | 75.4 | -5.0 | -1.3 | 0.079482 | -0.001042 | -0.000216 |
| 19 | 0.002365 | 425.5 | 9.3 | 2.6 | 0.005773 | -0.000215 | 0.003790 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.62 | -0.590 | 2.034 | 4.61 | -0.653 | 2.251 |
| 1 | 0.144 | 4.61 | -0.576 | 1.988 | 4.61 | -0.640 | 2.207 |
| 2 | 0.104 | 4.59 | -0.579 | 2.005 | 4.59 | -0.623 | 2.158 |
| 2 | 0.144 | 4.59 | -0.573 | 1.984 | 4.59 | -0.618 | 2.142 |
| 3 | 0.104 | 4.60 | -0.674 | 2.334 | 4.59 | -0.732 | 2.538 |
| 3 | 0.144 | 4.59 | -0.668 | 2.314 | 4.59 | -0.727 | 2.522 |
| 4 | 0.104 | 4.61 | -0.748 | 2.583 | 4.60 | -0.780 | 2.695 |
| 4 | 0.144 | 4.61 | -0.731 | 2.526 | 4.60 | -0.760 | 2.629 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 34 | 0.1773 | 75.4 | -5.0 | -1.3 | 0.079482 | -0.001042 | -0.000216 |
| 19 | 0.002365 | 425.5 | 9.3 | 2.6 | 0.005773 | -0.000215 | 0.003790 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.62 | -0.661 | 2.276 | 4.61 | -0.660 | 2.278 |
| 1 | 0.144 | 4.62 | -0.637 | 2.196 | 4.61 | -0.631 | 2.176 |
| 2 | 0.104 | 4.60 | -0.656 | 2.268 | 4.60 | -0.654 | 2.261 |
| 2 | 0.144 | 4.61 | -0.655 | 2.264 | 4.60 | -0.643 | 2.223 |
| 3 | 0.104 | 4.59 | -0.813 | 2.819 | 4.58 | -0.771 | 2.677 |
| 3 | 0.144 | 4.58 | -0.794 | 2.755 | 4.58 | -0.748 | 2.601 |
| 4 | 0.104 | 4.63 | -0.813 | 2.796 | 4.62 | -0.827 | 2.846 |
| 4 | 0.144 | 4.63 | -0.799 | 2.750 | 4.62 | -0.789 | 2.716 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|-----------|----------|----------|------------|----------|---------------|----------------|-------------|
| 34 | 0.1771 | 75.3 | -5.0 | -1.7 | 0.099089 | -0.001872 | 0.000041 |
| 21 | 0.002363 | 425.1 | 10.9 | 3.5 | 0.007407 | -0.000521 | 0.005084 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.54 | -0.896 | 3.142 | 4.54 | -0.923 | 3.234 |
| 1 | 0.144 | 4.53 | -0.889 | 3.117 | 4.54 | -0.882 | 3.091 |
| 2 | 0.104 | 4.53 | -0.881 | 3.094 | 4.53 | -0.894 | 3.141 |
| 2 | 0.144 | 4.52 | -0.868 | 3.051 | 4.52 | -0.840 | 2.954 |
| 3 | 0.104 | 4.51 | -0.954 | 3.365 | 4.50 | -0.947 | 3.349 |
| 3 | 0.144 | 4.51 | -0.936 | 3.303 | 4.51 | -0.856 | 3.020 |
| 4 | 0.104 | 4.52 | -1.089 | 3.833 | 4.52 | -1.025 | 3.606 |
| 4 | 0.144 | 4.52 | -1.103 | 3.882 | 4.52 | -1.027 | 3.612 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 34 | 0.1771 | 75.3 | -5.0 | -1.7 | 0.099089 | -0.001872 | 0.000041 |
| 21 | 0.002363 | 425.1 | 10.9 | 3.5 | 0.007407 | -0.000521 | 0.005084 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.57 | -0.882 | 3.074 | 4.56 | -0.927 | 3.237 |
| 1 | 0.144 | 4.57 | -0.873 | 3.043 | 4.55 | -0.903 | 3.155 |
| 2 | 0.104 | 4.53 | -0.891 | 3.126 | 4.53 | -0.887 | 3.113 |
| 2 | 0.144 | 4.53 | -0.883 | 3.101 | 4.52 | -0.861 | 3.030 |
| 3 | 0.104 | 4.54 | -0.843 | 2.954 | 4.55 | -1.043 | 3.650 |
| 3 | 0.144 | 4.54 | -0.827 | 2.902 | 4.53 | -0.951 | 3.337 |
| 4 | 0.104 | 4.53 | -1.094 | 3.836 | 4.53 | -1.115 | 3.918 |
| 4 | 0.144 | 4.53 | -1.096 | 3.845 | 4.52 | -1.082 | 3.806 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 34 | 0.1771 | 75.3 | -5.0 | -1.7 | 0.099089 | -0.001872 | 0.000041 |
| 21 | 0.002363 | 425.1 | 10.9 | 3.5 | 0.007407 | -0.000521 | 0.005084 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.57 | -0.844 | 2.939 | 4.55 | -0.951 | 3.320 |
| 1 | 0.144 | 4.57 | -0.839 | 2.922 | 4.55 | -0.916 | 3.203 |
| 2 | 0.104 | 4.53 | -0.886 | 3.114 | 4.53 | -0.891 | 3.133 |
| 2 | 0.144 | 4.52 | -0.877 | 3.087 | 4.51 | -0.870 | 3.069 |
| 3 | 0.104 | 4.53 | -0.816 | 2.867 | 4.55 | -1.072 | 3.745 |
| 3 | 0.144 | 4.53 | -0.825 | 2.896 | 4.53 | -0.971 | 3.406 |
| 4 | 0.104 | 4.53 | -1.081 | 3.801 | 4.53 | -1.140 | 4.000 |
| 4 | 0.144 | 4.52 | -1.059 | 3.726 | 4.53 | -1.106 | 3.885 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|-----------|----------|----------|------------|----------|---------------|----------------|-------------|
| 22 | 0.2121 | 90.1 | -5.0 | -0.4 | 0.020214 | -0.000191 | -0.000032 |
| 11 | 0.002332 | 424.9 | 4.8 | 0.5 | 0.000267 | -0.000134 | 0.001671 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.79 | -0.534 | 1.775 | 4.78 | -0.544 | 1.810 |
| 1 | 0.144 | 4.79 | -0.531 | 1.764 | 4.78 | -0.540 | 1.796 |
| 2 | 0.104 | 4.79 | -0.674 | 2.236 | 4.78 | -0.677 | 2.253 |
| 2 | 0.144 | 4.79 | -0.660 | 2.192 | 4.78 | -0.662 | 2.205 |
| 3 | 0.104 | 4.81 | -0.641 | 2.123 | 4.80 | -0.631 | 2.092 |
| 3 | 0.144 | 4.80 | -0.625 | 2.070 | 4.80 | -0.609 | 2.021 |
| 4 | 0.104 | 4.80 | -0.590 | 1.953 | 4.80 | -0.606 | 2.012 |
| 4 | 0.144 | 4.80 | -0.577 | 1.910 | 4.79 | -0.588 | 1.952 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.79 | -0.543 | 1.804 | 4.78 | -0.571 | 1.901 |
| 1 | 0.144 | 4.79 | -0.531 | 1.766 | 4.78 | -0.561 | 1.866 |
| 2 | 0.104 | 4.79 | -0.610 | 2.027 | 4.78 | -0.619 | 2.061 |
| 2 | 0.144 | 4.78 | -0.604 | 2.010 | 4.78 | -0.606 | 2.018 |
| 3 | 0.104 | 4.80 | -0.608 | 2.013 | 4.80 | -0.615 | 2.041 |
| 3 | 0.144 | 4.80 | -0.595 | 1.971 | 4.80 | -0.606 | 2.010 |
| 4 | 0.104 | 4.79 | -0.530 | 1.760 | 4.79 | -0.550 | 1.827 |
| 4 | 0.144 | 4.79 | -0.514 | 1.708 | 4.79 | -0.529 | 1.756 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.79 | -0.464 | 1.541 | 4.79 | -0.501 | 1.663 |
| 1 | 0.144 | 4.79 | -0.460 | 1.527 | 4.79 | -0.495 | 1.643 |
| 2 | 0.104 | 4.77 | -0.578 | 1.928 | 4.76 | -0.558 | 1.862 |
| 2 | 0.144 | 4.77 | -0.566 | 1.887 | 4.76 | -0.547 | 1.829 |
| 3 | 0.104 | 4.80 | -0.602 | 1.996 | 4.79 | -0.648 | 2.153 |
| 3 | 0.144 | 4.80 | -0.589 | 1.954 | 4.79 | -0.635 | 2.110 |
| 4 | 0.104 | 4.79 | -0.585 | 1.944 | 4.78 | -0.588 | 1.956 |
| 4 | 0.144 | 4.78 | -0.573 | 1.905 | 4.78 | -0.576 | 1.916 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|-----------|----------|----------|------------|----------|---------------|----------------|-------------|
| 22 | 0.2123 | 90.2 | -5.0 | -0.6 | 0.038456 | -0.000389 | 0.000084 |
| 12 | 0.00233 | 425.0 | 6.3 | 1.2 | 0.001776 | -0.000099 | 0.002165 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.75 | -0.514 | 1.720 | 4.75 | -0.514 | 1.722 |
| 1 | 0.144 | 4.75 | -0.505 | 1.691 | 4.75 | -0.504 | 1.688 |
| 2 | 0.104 | 4.75 | -0.669 | 2.243 | 4.74 | -0.661 | 2.221 |
| 2 | 0.144 | 4.75 | -0.649 | 2.176 | 4.74 | -0.640 | 2.151 |
| 3 | 0.104 | 4.76 | -0.623 | 2.080 | 4.76 | -0.642 | 2.148 |
| 3 | 0.144 | 4.76 | -0.607 | 2.029 | 4.76 | -0.618 | 2.069 |
| 4 | 0.104 | 4.77 | -0.585 | 1.954 | 4.76 | -0.589 | 1.969 |
| 4 | 0.144 | 4.76 | -0.566 | 1.890 | 4.76 | -0.566 | 1.894 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.72 | -0.517 | 1.742 | 4.72 | -0.509 | 1.717 |
| 1 | 0.144 | 4.72 | -0.500 | 1.686 | 4.72 | -0.492 | 1.658 |
| 2 | 0.104 | 4.73 | -0.604 | 2.035 | 4.72 | -0.612 | 2.063 |
| 2 | 0.144 | 4.72 | -0.583 | 1.964 | 4.72 | -0.587 | 1.981 |
| 3 | 0.104 | 4.73 | -0.675 | 2.273 | 4.73 | -0.655 | 2.205 |
| 3 | 0.144 | 4.72 | -0.653 | 2.201 | 4.72 | -0.644 | 2.170 |
| 4 | 0.104 | 4.75 | -0.546 | 1.830 | 4.74 | -0.579 | 1.942 |
| 4 | 0.144 | 4.75 | -0.524 | 1.757 | 4.74 | -0.551 | 1.850 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.73 | -0.512 | 1.721 | 4.73 | -0.527 | 1.772 |
| 1 | 0.144 | 4.73 | -0.498 | 1.676 | 4.73 | -0.506 | 1.702 |
| 2 | 0.104 | 4.72 | -0.599 | 2.018 | 4.72 | -0.580 | 1.955 |
| 2 | 0.144 | 4.72 | -0.572 | 1.928 | 4.72 | -0.555 | 1.874 |
| 3 | 0.104 | 4.75 | -0.637 | 2.135 | 4.74 | -0.639 | 2.145 |
| 3 | 0.144 | 4.75 | -0.613 | 2.053 | 4.74 | -0.614 | 2.060 |
| 4 | 0.104 | 4.74 | -0.516 | 1.730 | 4.74 | -0.516 | 1.731 |
| 4 | 0.144 | 4.74 | -0.495 | 1.659 | 4.74 | -0.492 | 1.654 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|-----------|----------|----------|------------|----------|---------------|----------------|-------------|
| 22 | 0.2127 | 90.3 | -5.0 | -0.8 | 0.059821 | -0.000831 | 0.000361 |
| 13 | 0.002329 | 424.7 | 7.9 | 2.1 | 0.003515 | -0.000426 | 0.002995 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.70 | -0.543 | 1.840 | 4.69 | -0.566 | 1.920 |
| 1 | 0.144 | 4.70 | -0.531 | 1.799 | 4.69 | -0.550 | 1.867 |
| 2 | 0.104 | 4.70 | -0.682 | 2.309 | 4.69 | -0.702 | 2.383 |
| 2 | 0.144 | 4.70 | -0.668 | 2.262 | 4.69 | -0.674 | 2.289 |
| 3 | 0.104 | 4.69 | -0.648 | 2.197 | 4.68 | -0.657 | 2.233 |
| 3 | 0.144 | 4.69 | -0.626 | 2.122 | 4.68 | -0.632 | 2.147 |
| 4 | 0.104 | 4.71 | -0.619 | 2.090 | 4.70 | -0.632 | 2.137 |
| 4 | 0.144 | 4.71 | -0.598 | 2.019 | 4.70 | -0.607 | 2.054 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.69 | -0.526 | 1.786 | 4.68 | -0.548 | 1.862 |
| 1 | 0.144 | 4.68 | -0.506 | 1.720 | 4.68 | -0.521 | 1.772 |
| 2 | 0.104 | 4.66 | -0.550 | 1.880 | 4.65 | -0.558 | 1.908 |
| 2 | 0.144 | 4.66 | -0.530 | 1.811 | 4.65 | -0.534 | 1.825 |
| 3 | 0.104 | 4.68 | -0.722 | 2.457 | 4.67 | -0.724 | 2.468 |
| 3 | 0.144 | 4.67 | -0.698 | 2.375 | 4.66 | -0.689 | 2.351 |
| 4 | 0.104 | 4.69 | -0.621 | 2.108 | 4.68 | -0.645 | 2.193 |
| 4 | 0.144 | 4.68 | -0.594 | 2.017 | 4.68 | -0.616 | 2.093 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.69 | -0.464 | 1.576 | 4.69 | -0.487 | 1.654 |
| 1 | 0.144 | 4.68 | -0.452 | 1.535 | 4.69 | -0.468 | 1.591 |
| 2 | 0.104 | 4.68 | -0.590 | 2.009 | 4.67 | -0.582 | 1.983 |
| 2 | 0.144 | 4.68 | -0.573 | 1.949 | 4.67 | -0.562 | 1.916 |
| 3 | 0.104 | 4.68 | -0.636 | 2.159 | 4.67 | -0.660 | 2.246 |
| 3 | 0.144 | 4.68 | -0.617 | 2.099 | 4.67 | -0.631 | 2.147 |
| 4 | 0.104 | 4.71 | -0.589 | 1.993 | 4.70 | -0.622 | 2.105 |
| 4 | 0.144 | 4.70 | -0.566 | 1.915 | 4.70 | -0.594 | 2.011 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|-----------|----------|----------|------------|------------|---------------|----------------|----------------|
| 22 | 0.2124 | 90.3 | -5.0 | -0.9 | 0.067582 | -0.001031 | -0.000379 |
| 14 | 0.002329 | 425.4 | 8.7 | 2.8 | 0.004534 | -0.000281 | 0.003454 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.66 | -0.583 | 1.989 | 4.66 | -0.589 | 2.011 |
| 1 | 0.144 | 4.66 | -0.569 | 1.942 | 4.66 | -0.567 | 1.937 |
| 2 | 0.104 | 4.64 | -0.509 | 1.746 | 4.64 | -0.520 | 1.785 |
| 2 | 0.144 | 4.64 | -0.509 | 1.744 | 4.64 | -0.513 | 1.760 |
| 3 | 0.104 | 4.64 | -0.779 | 2.672 | 4.63 | -0.773 | 2.656 |
| 3 | 0.144 | 4.64 | -0.777 | 2.665 | 4.63 | -0.754 | 2.591 |
| 4 | 0.104 | 4.67 | -0.680 | 2.320 | 4.66 | -0.672 | 2.292 |
| 4 | 0.144 | 4.67 | -0.676 | 2.306 | 4.66 | -0.658 | 2.247 |
| Blade no. | r/R | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 22 | 0.2124 | 90.3 | -5.0 | -0.9 | 0.067582 | -0.001031 | -0.000379 |
| 14 | 0.002329 | 425.4 | 8.7 | 2.8 | 0.004534 | -0.000281 | 0.003454 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.67 | -0.504 | 1.717 | 4.67 | -0.533 | 1.817 |
| 1 | 0.144 | 4.67 | -0.494 | 1.686 | 4.66 | -0.516 | 1.760 |
| 2 | 0.104 | 4.65 | -0.674 | 2.310 | 4.64 | -0.683 | 2.343 |
| 2 | 0.144 | 4.64 | -0.669 | 2.292 | 4.64 | -0.669 | 2.296 |
| 3 | 0.104 | 4.64 | -0.539 | 1.851 | 4.63 | -0.534 | 1.833 |
| 3 | 0.144 | 4.64 | -0.541 | 1.858 | 4.64 | -0.537 | 1.842 |
| 4 | 0.104 | 4.67 | -0.678 | 2.311 | 4.66 | -0.684 | 2.332 |
| 4 | 0.144 | 4.67 | -0.664 | 2.264 | 4.66 | -0.668 | 2.280 |
| Blade no. | r/R | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S |
| 22 | 0.2124 | 90.3 | -5.0 | -0.9 | 0.067582 | -0.001031 | -0.000379 |
| 14 | 0.002329 | 425.4 | 8.7 | 2.8 | 0.004534 | -0.000281 | 0.003454 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.65 | -0.457 | 1.563 | 4.66 | -0.468 | 1.599 |
| 1 | 0.144 | 4.65 | -0.446 | 1.526 | 4.65 | -0.452 | 1.545 |
| 2 | 0.104 | 4.63 | -0.530 | 1.822 | 4.63 | -0.534 | 1.836 |
| 2 | 0.144 | 4.63 | -0.524 | 1.800 | 4.63 | -0.521 | 1.793 |
| 3 | 0.104 | 4.63 | -0.619 | 2.128 | 4.63 | -0.631 | 2.169 |
| 3 | 0.144 | 4.63 | -0.613 | 2.107 | 4.63 | -0.615 | 2.114 |
| 4 | 0.104 | 4.66 | -0.727 | 2.483 | 4.65 | -0.702 | 2.402 |
| 4 | 0.144 | 4.66 | -0.715 | 2.443 | 4.65 | -0.682 | 2.334 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|-----------|----------|----------|------------|----------|---------------|----------------|-------------|
| 14 | 0.2132 | 90.4 | -5.0 | -0.8 | 0.068037 | -0.000680 | -0.000270 |
| 8 | 0.002367 | 424.4 | 8.7 | 2.7 | 0.005556 | -0.000115 | 0.003463 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.72 | -0.651 | 2.191 | 4.72 | -0.735 | 2.479 |
| 1 | 0.144 | 4.72 | -0.614 | 2.072 | 4.71 | -0.678 | 2.290 |
| 2 | 0.104 | 4.68 | -0.675 | 2.294 | 4.69 | -0.661 | 2.242 |
| 2 | 0.144 | 4.68 | -0.664 | 2.261 | 4.67 | -0.638 | 2.173 |
| 3 | 0.104 | 4.70 | -0.812 | 2.750 | 4.70 | -1.070 | 3.621 |
| 3 | 0.144 | 4.68 | -0.768 | 2.611 | 4.68 | -0.844 | 2.870 |
| 4 | 0.104 | 4.71 | -0.850 | 2.870 | 4.70 | -0.898 | 3.036 |
| 4 | 0.144 | 4.71 | -0.823 | 2.783 | 4.70 | -0.857 | 2.903 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.72 | -0.575 | 1.939 | 4.72 | -0.629 | 2.122 |
| 1 | 0.144 | 4.72 | -0.536 | 1.809 | 4.71 | -0.573 | 1.937 |
| 2 | 0.104 | 4.69 | -0.669 | 2.267 | 4.69 | -0.711 | 2.415 |
| 2 | 0.144 | 4.69 | -0.660 | 2.239 | 4.68 | -0.651 | 2.211 |
| 3 | 0.104 | 4.68 | -0.764 | 2.596 | 4.68 | -0.895 | 3.045 |
| 3 | 0.144 | 4.68 | -0.762 | 2.593 | 4.66 | -0.785 | 2.679 |
| 4 | 0.104 | 4.73 | -0.868 | 2.920 | 4.72 | -0.922 | 3.108 |
| 4 | 0.144 | 4.73 | -0.859 | 2.891 | 4.71 | -0.884 | 2.982 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.73 | -0.507 | 1.703 | 4.74 | -0.545 | 1.832 |
| 1 | 0.144 | 4.73 | -0.478 | 1.607 | 4.73 | -0.512 | 1.720 |
| 2 | 0.104 | 4.71 | -0.636 | 2.147 | 4.70 | -0.664 | 2.248 |
| 2 | 0.144 | 4.71 | -0.623 | 2.105 | 4.70 | -0.666 | 2.256 |
| 3 | 0.104 | 4.69 | -0.666 | 2.259 | 4.70 | -0.768 | 2.602 |
| 3 | 0.144 | 4.68 | -0.637 | 2.166 | 4.68 | -0.743 | 2.528 |
| 4 | 0.104 | 4.76 | -0.859 | 2.870 | 4.75 | -0.883 | 2.960 |
| 4 | 0.144 | 4.76 | -0.833 | 2.784 | 4.74 | -0.857 | 2.875 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/S CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|-----------|----------|----------|------------|----------|-----------------|----------------|-------------|
| 22 | 0.2123 | 90.3 | -5.0 | -1.0 | 0.080432 | -0.001466 | -0.000028 |
| 15 | 0.002328 | 425.6 | 9.6 | 3.3 | 0.005539 | -0.000411 | 0.004008 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.62 | -0.557 | 1.918 | 4.62 | -0.549 | 1.892 |
| 1 | 0.144 | 4.62 | -0.550 | 1.894 | 4.62 | -0.530 | 1.828 |
| 2 | 0.104 | 4.60 | -0.626 | 2.167 | 4.59 | -0.567 | 1.965 |
| 2 | 0.144 | 4.60 | -0.629 | 2.175 | 4.59 | -0.561 | 1.946 |
| 3 | 0.104 | 4.58 | -0.772 | 2.682 | 4.58 | -0.709 | 2.465 |
| 3 | 0.144 | 4.58 | -0.769 | 2.670 | 4.58 | -0.702 | 2.442 |
| 4 | 0.104 | 4.61 | -0.847 | 2.921 | 4.62 | -0.819 | 2.824 |
| 4 | 0.144 | 4.61 | -0.847 | 2.920 | 4.61 | -0.808 | 2.785 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.64 | -0.582 | 1.995 | 4.64 | -0.606 | 2.076 |
| 1 | 0.144 | 4.64 | -0.578 | 1.983 | 4.64 | -0.595 | 2.038 |
| 2 | 0.104 | 4.62 | -0.615 | 2.119 | 4.61 | -0.605 | 2.087 |
| 2 | 0.144 | 4.62 | -0.616 | 2.123 | 4.61 | -0.601 | 2.071 |
| 3 | 0.104 | 4.62 | -0.708 | 2.440 | 4.61 | -0.723 | 2.496 |
| 3 | 0.144 | 4.61 | -0.711 | 2.452 | 4.61 | -0.704 | 2.429 |
| 4 | 0.104 | 4.64 | -0.827 | 2.835 | 4.63 | -0.794 | 2.727 |
| 4 | 0.144 | 4.64 | -0.824 | 2.826 | 4.63 | -0.781 | 2.684 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.64 | -0.579 | 1.983 | 4.64 | -0.597 | 2.050 |
| 1 | 0.144 | 4.64 | -0.573 | 1.964 | 4.63 | -0.583 | 2.002 |
| 2 | 0.104 | 4.61 | -0.601 | 2.072 | 4.61 | -0.604 | 2.086 |
| 2 | 0.144 | 4.61 | -0.611 | 2.106 | 4.61 | -0.609 | 2.103 |
| 3 | 0.104 | 4.61 | -0.733 | 2.527 | 4.60 | -0.747 | 2.582 |
| 3 | 0.144 | 4.61 | -0.739 | 2.549 | 4.60 | -0.739 | 2.556 |
| 4 | 0.104 | 4.64 | -0.815 | 2.798 | 4.63 | -0.771 | 2.651 |
| 4 | 0.144 | 4.64 | -0.820 | 2.813 | 4.63 | -0.765 | 2.630 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|-----------|----------|----------|------------|----------|---------------|----------------|-------------|
| 34 | 0.2474 | 105.0 | -5.0 | -0.3 | 0.019129 | -0.000088 | 0.000262 |
| 23 | 0.002347 | 424.4 | 5.1 | 0.2 | -0.000331 | -0.000392 | 0.001721 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.77 | -0.512 | 1.707 | 4.77 | -0.519 | 1.733 |
| 1 | 0.144 | 4.77 | -0.505 | 1.685 | 4.77 | -0.510 | 1.702 |
| 2 | 0.104 | 4.75 | -0.590 | 1.975 | 4.75 | -0.586 | 1.962 |
| 2 | 0.144 | 4.75 | -0.571 | 1.913 | 4.75 | -0.564 | 1.890 |
| 3 | 0.104 | 4.78 | -0.638 | 2.125 | 4.77 | -0.677 | 2.256 |
| 3 | 0.144 | 4.78 | -0.627 | 2.090 | 4.77 | -0.657 | 2.191 |
| 4 | 0.104 | 4.77 | -0.536 | 1.786 | 4.77 | -0.538 | 1.795 |
| 4 | 0.144 | 4.77 | -0.526 | 1.753 | 4.77 | -0.532 | 1.775 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.74 | -0.541 | 1.815 | 4.74 | -0.536 | 1.800 |
| 1 | 0.144 | 4.74 | -0.525 | 1.763 | 4.74 | -0.520 | 1.746 |
| 2 | 0.104 | 4.74 | -0.621 | 2.083 | 4.74 | -0.616 | 2.070 |
| 2 | 0.144 | 4.74 | -0.597 | 2.004 | 4.73 | -0.592 | 1.992 |
| 3 | 0.104 | 4.75 | -0.639 | 2.141 | 4.74 | -0.638 | 2.142 |
| 3 | 0.144 | 4.74 | -0.614 | 2.059 | 4.74 | -0.593 | 1.994 |
| 4 | 0.104 | 4.76 | -0.585 | 1.956 | 4.75 | -0.587 | 1.966 |
| 4 | 0.144 | 4.76 | -0.560 | 1.872 | 4.75 | -0.563 | 1.887 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.74 | -0.574 | 1.927 | 4.74 | -0.556 | 1.868 |
| 1 | 0.144 | 4.74 | -0.549 | 1.845 | 4.73 | -0.534 | 1.795 |
| 2 | 0.104 | 4.74 | -0.559 | 1.879 | 4.73 | -0.559 | 1.880 |
| 2 | 0.144 | 4.74 | -0.544 | 1.827 | 4.73 | -0.544 | 1.829 |
| 3 | 0.104 | 4.74 | -0.725 | 2.434 | 4.73 | -0.689 | 2.320 |
| 3 | 0.144 | 4.73 | -0.708 | 2.381 | 4.72 | -0.670 | 2.258 |
| 4 | 0.104 | 4.76 | -0.553 | 1.849 | 4.75 | -0.543 | 1.817 |
| 4 | 0.144 | 4.75 | -0.531 | 1.777 | 4.75 | -0.516 | 1.730 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|-----------|----------|----------|------------|----------|---------------|----------------|-------------|
| 34 | 0.2472 | 105.1 | -5.0 | -0.3 | 0.041191 | -0.000345 | -0.000186 |
| 24 | 0.002347 | 425.3 | 6.9 | 1.5 | 0.001658 | -0.000203 | 0.002381 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.71 | -0.441 | 1.491 | 4.70 | -0.471 | 1.594 |
| 1 | 0.144 | 4.70 | -0.421 | 1.423 | 4.70 | -0.450 | 1.522 |
| 2 | 0.104 | 4.70 | -0.526 | 1.785 | 4.69 | -0.547 | 1.857 |
| 2 | 0.144 | 4.69 | -0.504 | 1.709 | 4.69 | -0.523 | 1.776 |
| 3 | 0.104 | 4.70 | -0.556 | 1.881 | 4.69 | -0.613 | 2.080 |
| 3 | 0.144 | 4.70 | -0.528 | 1.789 | 4.69 | -0.581 | 1.972 |
| 4 | 0.104 | 4.71 | -0.555 | 1.875 | 4.71 | -0.597 | 2.017 |
| 4 | 0.144 | 4.71 | -0.527 | 1.778 | 4.71 | -0.562 | 1.899 |
| Blade no. | r/R | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 34 | 0.2472 | 105.1 | -5.0 | -0.3 | 0.041191 | -0.000345 | -0.000186 |
| 24 | 0.002347 | 425.3 | 6.9 | 1.5 | 0.001658 | -0.000203 | 0.002381 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.70 | -0.478 | 1.619 | 4.69 | -0.475 | 1.613 |
| 1 | 0.144 | 4.69 | -0.461 | 1.562 | 4.69 | -0.456 | 1.549 |
| 2 | 0.104 | 4.69 | -0.549 | 1.862 | 4.68 | -0.543 | 1.847 |
| 2 | 0.144 | 4.69 | -0.528 | 1.793 | 4.68 | -0.524 | 1.780 |
| 3 | 0.104 | 4.70 | -0.564 | 1.910 | 4.69 | -0.558 | 1.893 |
| 3 | 0.144 | 4.70 | -0.540 | 1.829 | 4.69 | -0.539 | 1.830 |
| 4 | 0.104 | 4.71 | -0.507 | 1.715 | 4.70 | -0.518 | 1.756 |
| 4 | 0.144 | 4.70 | -0.487 | 1.648 | 4.70 | -0.496 | 1.680 |
| Blade no. | r/R | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 34 | 0.2472 | 105.1 | -5.0 | -0.3 | 0.041191 | -0.000345 | -0.000186 |
| 24 | 0.002347 | 425.3 | 6.9 | 1.5 | 0.001658 | -0.000203 | 0.002381 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.70 | -0.482 | 1.631 | 4.69 | -0.474 | 1.608 |
| 1 | 0.144 | 4.70 | -0.462 | 1.564 | 4.69 | -0.455 | 1.543 |
| 2 | 0.104 | 4.69 | -0.555 | 1.884 | 4.68 | -0.515 | 1.751 |
| 2 | 0.144 | 4.69 | -0.535 | 1.815 | 4.68 | -0.497 | 1.687 |
| 3 | 0.104 | 4.70 | -0.595 | 2.012 | 4.69 | -0.539 | 1.827 |
| 3 | 0.144 | 4.70 | -0.573 | 1.941 | 4.69 | -0.568 | 1.927 |
| 4 | 0.104 | 4.71 | -0.533 | 1.801 | 4.70 | -0.541 | 1.830 |
| 4 | 0.144 | 4.71 | -0.512 | 1.730 | 4.70 | -0.524 | 1.773 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/S CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|--------------|-------------|-------------|---------------|------------|--------------------|-------------------|----------------|
| 34 | 0.2479 | 105.4 | -5.0 | -0.5 | 0.059027 | -0.000687 | -0.000216 |
| 25 | 0.002344 | 425.3 | 8.5 | 2.5 | 0.003314 | -0.000326 | 0.003158 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.66 | -0.515 | 1.760 | 4.65 | -0.540 | 1.849 |
| 1 | 0.144 | 4.65 | -0.495 | 1.692 | 4.65 | -0.513 | 1.757 |
| 2 | 0.104 | 4.63 | -0.505 | 1.737 | 4.63 | -0.505 | 1.736 |
| 2 | 0.144 | 4.63 | -0.491 | 1.687 | 4.63 | -0.489 | 1.683 |
| 3 | 0.104 | 4.63 | -0.640 | 2.203 | 4.62 | -0.693 | 2.387 |
| 3 | 0.144 | 4.63 | -0.625 | 2.151 | 4.62 | -0.645 | 2.224 |
| 4 | 0.104 | 4.65 | -0.669 | 2.291 | 4.64 | -0.683 | 2.339 |
| 4 | 0.144 | 4.65 | -0.645 | 2.208 | 4.64 | -0.648 | 2.220 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/S CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 34 | 0.2479 | 105.4 | -5.0 | -0.5 | 0.059027 | -0.000687 | -0.000216 |
| 25 | 0.002344 | 425.3 | 8.5 | 2.5 | 0.003314 | -0.000326 | 0.003158 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.64 | -0.459 | 1.575 | 4.64 | -0.480 | 1.646 |
| 1 | 0.144 | 4.64 | -0.443 | 1.520 | 4.64 | -0.466 | 1.599 |
| 2 | 0.104 | 4.63 | -0.489 | 1.680 | 4.63 | -0.520 | 1.789 |
| 2 | 0.144 | 4.63 | -0.481 | 1.654 | 4.63 | -0.512 | 1.762 |
| 3 | 0.104 | 4.62 | -0.551 | 1.899 | 4.61 | -0.585 | 2.016 |
| 3 | 0.144 | 4.61 | -0.542 | 1.868 | 4.61 | -0.579 | 1.997 |
| 4 | 0.104 | 4.65 | -0.620 | 2.121 | 4.65 | -0.655 | 2.244 |
| 4 | 0.144 | 4.65 | -0.602 | 2.061 | 4.64 | -0.640 | 2.191 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/S CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 34 | 0.2479 | 105.4 | -5.0 | -0.5 | 0.059027 | -0.000687 | -0.000216 |
| 25 | 0.002344 | 425.3 | 8.5 | 2.5 | 0.003314 | -0.000326 | 0.003158 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.67 | -0.536 | 1.828 | 4.66 | -0.544 | 1.856 |
| 1 | 0.144 | 4.66 | -0.516 | 1.762 | 4.66 | -0.516 | 1.764 |
| 2 | 0.104 | 4.64 | -0.574 | 1.966 | 4.64 | -0.537 | 1.845 |
| 2 | 0.144 | 4.64 | -0.560 | 1.918 | 4.64 | -0.533 | 1.828 |
| 3 | 0.104 | 4.65 | -0.693 | 2.371 | 4.64 | -0.668 | 2.291 |
| 3 | 0.144 | 4.65 | -0.665 | 2.278 | 4.64 | -0.624 | 2.140 |
| 4 | 0.104 | 4.67 | -0.674 | 2.297 | 4.66 | -0.650 | 2.220 |
| 4 | 0.144 | 4.66 | -0.648 | 2.210 | 4.66 | -0.620 | 2.118 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|-----------|----------|----------|------------|----------|---------------|----------------|-------------|
| 22 | 0.2485 | 105.3 | -5.0 | -0.6 | 0.069208 | -0.001223 | 0.000087 |
| 16 | 0.002319 | 423.8 | 9.2 | 3.2 | 0.004137 | -0.000485 | 0.003678 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.65 | -0.501 | 1.714 | 4.66 | -0.503 | 1.719 |
| 1 | 0.144 | 4.65 | -0.487 | 1.668 | 4.65 | -0.485 | 1.657 |
| 2 | 0.104 | 4.63 | -0.541 | 1.859 | 4.63 | -0.549 | 1.886 |
| 2 | 0.144 | 4.63 | -0.535 | 1.839 | 4.63 | -0.537 | 1.846 |
| 3 | 0.104 | 4.62 | -0.643 | 2.216 | 4.62 | -0.676 | 2.326 |
| 3 | 0.144 | 4.62 | -0.643 | 2.217 | 4.62 | -0.663 | 2.283 |
| 4 | 0.104 | 4.65 | -0.726 | 2.486 | 4.66 | -0.715 | 2.442 |
| 4 | 0.144 | 4.65 | -0.726 | 2.483 | 4.65 | -0.710 | 2.426 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 22 | 0.2485 | 105.3 | -5.0 | -0.6 | 0.069208 | -0.001223 | 0.000087 |
| 16 | 0.002319 | 423.8 | 9.2 | 3.2 | 0.004137 | -0.000485 | 0.003678 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.64 | -0.492 | 1.690 | 4.64 | -0.471 | 1.616 |
| 1 | 0.144 | 4.63 | -0.488 | 1.677 | 4.63 | -0.462 | 1.588 |
| 2 | 0.104 | 4.61 | -0.515 | 1.779 | 4.61 | -0.482 | 1.663 |
| 2 | 0.144 | 4.61 | -0.515 | 1.776 | 4.61 | -0.475 | 1.641 |
| 3 | 0.104 | 4.61 | -0.597 | 2.063 | 4.60 | -0.557 | 1.926 |
| 3 | 0.144 | 4.60 | -0.608 | 2.102 | 4.60 | -0.536 | 1.855 |
| 4 | 0.104 | 4.63 | -0.724 | 2.487 | 4.62 | -0.690 | 2.375 |
| 4 | 0.144 | 4.63 | -0.719 | 2.472 | 4.62 | -0.677 | 2.330 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 22 | 0.2485 | 105.3 | -5.0 | -0.6 | 0.069208 | -0.001223 | 0.000087 |
| 16 | 0.002319 | 423.8 | 9.2 | 3.2 | 0.004137 | -0.000485 | 0.003678 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.65 | -0.517 | 1.768 | 4.65 | -0.513 | 1.758 |
| 1 | 0.144 | 4.65 | -0.506 | 1.730 | 4.65 | -0.498 | 1.704 |
| 2 | 0.104 | 4.62 | -0.571 | 1.969 | 4.62 | -0.540 | 1.861 |
| 2 | 0.144 | 4.62 | -0.574 | 1.977 | 4.61 | -0.537 | 1.851 |
| 3 | 0.104 | 4.62 | -0.694 | 2.392 | 4.62 | -0.677 | 2.331 |
| 3 | 0.144 | 4.62 | -0.675 | 2.327 | 4.61 | -0.654 | 2.254 |
| 4 | 0.104 | 4.65 | -0.770 | 2.636 | 4.64 | -0.732 | 2.507 |
| 4 | 0.144 | 4.65 | -0.759 | 2.599 | 4.64 | -0.707 | 2.425 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/S CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|-----------|----------|----------|------------|----------|-----------------|----------------|-------------|
| 34 | 0.2479 | 105.4 | -5.0 | -0.7 | 0.080073 | -0.001298 | 0.000023 |
| 27 | 0.002343 | 425.2 | 10.1 | 3.6 | 0.005065 | -0.000408 | 0.004153 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.62 | -0.625 | 2.154 | 4.61 | -0.674 | 2.323 |
| 1 | 0.144 | 4.61 | -0.601 | 2.072 | 4.61 | -0.635 | 2.194 |
| 2 | 0.104 | 4.59 | -0.639 | 2.218 | 4.58 | -0.619 | 2.149 |
| 2 | 0.144 | 4.58 | -0.635 | 2.206 | 4.57 | -0.586 | 2.038 |
| 3 | 0.104 | 4.59 | -0.803 | 2.783 | 4.58 | -0.785 | 2.729 |
| 3 | 0.144 | 4.58 | -0.800 | 2.775 | 4.57 | -0.756 | 2.628 |
| 4 | 0.104 | 4.60 | -0.873 | 3.022 | 4.59 | -0.794 | 2.750 |
| 4 | 0.144 | 4.59 | -0.864 | 2.993 | 4.59 | -0.773 | 2.678 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.61 | -0.636 | 2.194 | 4.62 | -0.665 | 2.292 |
| 1 | 0.144 | 4.61 | -0.620 | 2.140 | 4.61 | -0.626 | 2.159 |
| 2 | 0.104 | 4.61 | -0.704 | 2.432 | 4.60 | -0.705 | 2.440 |
| 2 | 0.144 | 4.61 | -0.692 | 2.392 | 4.60 | -0.676 | 2.339 |
| 3 | 0.104 | 4.59 | -0.734 | 2.548 | 4.59 | -0.726 | 2.517 |
| 3 | 0.144 | 4.58 | -0.729 | 2.531 | 4.59 | -0.710 | 2.462 |
| 4 | 0.104 | 4.62 | -0.840 | 2.894 | 4.62 | -0.865 | 2.980 |
| 4 | 0.144 | 4.61 | -0.821 | 2.832 | 4.61 | -0.828 | 2.854 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.62 | -0.661 | 2.279 | 4.62 | -0.661 | 2.280 |
| 1 | 0.144 | 4.61 | -0.636 | 2.195 | 4.61 | -0.622 | 2.145 |
| 2 | 0.104 | 4.60 | -0.692 | 2.395 | 4.59 | -0.677 | 2.345 |
| 2 | 0.144 | 4.60 | -0.676 | 2.337 | 4.59 | -0.636 | 2.202 |
| 3 | 0.104 | 4.59 | -0.791 | 2.743 | 4.59 | -0.749 | 2.596 |
| 3 | 0.144 | 4.59 | -0.774 | 2.685 | 4.58 | -0.724 | 2.511 |
| 4 | 0.104 | 4.61 | -0.860 | 2.968 | 4.61 | -0.834 | 2.878 |
| 4 | 0.144 | 4.61 | -0.838 | 2.893 | 4.61 | -0.794 | 2.743 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|-----------|----------|----------|------------|----------|---------------|----------------|-------------|
| 34 | 0.2484 | 105.4 | -5.0 | -0.8 | 0.096774 | -0.001913 | -0.000157 |
| 29 | 0.002343 | 424.6 | 11.8 | 5.1 | 0.006917 | -0.000568 | 0.005576 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.55 | -0.942 | 3.293 | 4.53 | -0.892 | 3.132 |
| 1 | 0.144 | 4.55 | -0.931 | 3.257 | 4.52 | -0.846 | 2.974 |
| 2 | 0.104 | 4.51 | -1.005 | 3.545 | 4.49 | -0.815 | 2.887 |
| 2 | 0.144 | 4.51 | -1.003 | 3.537 | 4.49 | -0.813 | 2.881 |
| 3 | 0.104 | 4.52 | -0.883 | 3.108 | 4.50 | -0.933 | 3.297 |
| 3 | 0.144 | 4.51 | -0.837 | 2.952 | 4.48 | -0.853 | 3.027 |
| 4 | 0.104 | 4.52 | -1.214 | 4.265 | 4.50 | -1.157 | 4.090 |
| 4 | 0.144 | 4.52 | -1.161 | 4.083 | 4.49 | -1.139 | 4.029 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.55 | -0.838 | 2.931 | 4.54 | -0.901 | 3.156 |
| 1 | 0.144 | 4.55 | -0.829 | 2.901 | 4.54 | -0.847 | 2.968 |
| 2 | 0.104 | 4.51 | -0.893 | 3.151 | 4.51 | -0.816 | 2.880 |
| 2 | 0.144 | 4.51 | -0.898 | 3.169 | 4.50 | -0.811 | 2.866 |
| 3 | 0.104 | 4.52 | -0.759 | 2.674 | 4.51 | -0.905 | 3.187 |
| 3 | 0.144 | 4.51 | -0.741 | 2.614 | 4.50 | -0.842 | 2.979 |
| 4 | 0.104 | 4.51 | -1.209 | 4.260 | 4.51 | -1.189 | 4.188 |
| 4 | 0.144 | 4.51 | -1.150 | 4.056 | 4.50 | -1.172 | 4.139 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.55 | -0.860 | 3.010 | 4.55 | -0.793 | 2.774 |
| 1 | 0.144 | 4.54 | -0.869 | 3.043 | 4.54 | -0.783 | 2.740 |
| 2 | 0.104 | 4.51 | -0.958 | 3.376 | 4.51 | -0.805 | 2.840 |
| 2 | 0.144 | 4.51 | -0.969 | 3.417 | 4.51 | -0.807 | 2.848 |
| 3 | 0.104 | 4.52 | -0.954 | 3.355 | 4.50 | -0.905 | 3.200 |
| 3 | 0.144 | 4.52 | -0.955 | 3.361 | 4.50 | -0.892 | 3.151 |
| 4 | 0.104 | 4.51 | -1.173 | 4.135 | 4.51 | -1.015 | 3.578 |
| 4 | 0.144 | 4.51 | -1.118 | 3.941 | 4.51 | -1.014 | 3.575 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|-----------|----------|----------|------------|----------|---------------|----------------|-------------|
| 14 | 0.2838 | 120.6 | -5.0 | -0.2 | 0.067083 | -0.000873 | -0.000693 |
| 9 | 0.002344 | 425.2 | 9.6 | 4.0 | 0.005442 | -0.000343 | 0.003826 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.69 | -0.485 | 1.646 | 4.69 | -0.527 | 1.786 |
| 1 | 0.144 | 4.69 | -0.480 | 1.630 | 4.69 | -0.539 | 1.828 |
| 2 | 0.104 | 4.65 | -0.636 | 2.176 | 4.64 | -0.641 | 2.196 |
| 2 | 0.144 | 4.64 | -0.623 | 2.139 | 4.64 | -0.623 | 2.137 |
| 3 | 0.104 | 4.64 | -0.677 | 2.322 | 4.63 | -0.800 | 2.748 |
| 3 | 0.144 | 4.63 | -0.633 | 2.176 | 4.62 | -0.746 | 2.567 |
| 4 | 0.104 | 4.69 | -0.906 | 3.073 | 4.70 | -0.945 | 3.203 |
| 4 | 0.144 | 4.69 | -0.897 | 3.043 | 4.69 | -0.943 | 3.197 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 14 | 0.2838 | 120.6 | -5.0 | -0.2 | 0.067083 | -0.000873 | -0.000693 |
| 9 | 0.002344 | 425.2 | 9.6 | 4.0 | 0.005442 | -0.000343 | 0.003826 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.69 | -0.718 | 2.434 | 4.67 | -0.623 | 2.122 |
| 1 | 0.144 | 4.68 | -0.696 | 2.362 | 4.66 | -0.614 | 2.096 |
| 2 | 0.104 | 4.62 | -0.611 | 2.106 | 4.63 | -0.562 | 1.933 |
| 2 | 0.144 | 4.61 | -0.621 | 2.143 | 4.60 | -0.508 | 1.758 |
| 3 | 0.104 | 4.66 | -1.187 | 4.046 | 4.64 | -1.744 | 5.975 |
| 3 | 0.144 | 4.64 | -1.221 | 4.184 | 4.63 | -1.301 | 4.469 |
| 4 | 0.104 | 4.66 | -0.939 | 3.204 | 4.64 | -0.937 | 3.212 |
| 4 | 0.144 | 4.65 | -0.947 | 3.238 | 4.64 | -0.922 | 3.164 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 14 | 0.2838 | 120.6 | -5.0 | -0.2 | 0.067083 | -0.000873 | -0.000693 |
| 9 | 0.002344 | 425.2 | 9.6 | 4.0 | 0.005442 | -0.000343 | 0.003826 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.68 | -0.644 | 2.190 | 4.68 | -0.716 | 2.437 |
| 1 | 0.144 | 4.68 | -0.648 | 2.204 | 4.68 | -0.712 | 2.422 |
| 2 | 0.104 | 4.63 | -0.619 | 2.125 | 4.63 | -0.815 | 2.798 |
| 2 | 0.144 | 4.62 | -0.567 | 1.953 | 4.62 | -0.674 | 2.319 |
| 3 | 0.104 | 4.64 | -0.963 | 3.302 | 4.73 | -1.640 | 5.508 |
| 3 | 0.144 | 4.63 | -0.949 | 3.261 | 4.63 | -1.100 | 3.777 |
| 4 | 0.104 | 4.66 | -0.849 | 2.900 | 4.72 | -1.010 | 3.402 |
| 4 | 0.144 | 4.66 | -0.854 | 2.920 | 4.73 | -0.970 | 3.265 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|-----------|----------|----------|------------|----------|---------------|----------------|-------------|
| 14 | 0.3306 | 140.2 | -5.0 | 0.1 | 0.019231 | -0.000301 | -0.000357 |
| 11 | 0.002319 | 424.3 | 6.2 | 0.8 | -0.000175 | -0.000645 | 0.001944 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.77 | -0.435 | 1.453 | 4.77 | -0.470 | 1.566 |
| 1 | 0.144 | 4.76 | -0.387 | 1.294 | 4.77 | -0.410 | 1.369 |
| 2 | 0.104 | 4.75 | -0.548 | 1.836 | 4.75 | -0.567 | 1.901 |
| 2 | 0.144 | 4.75 | -0.529 | 1.771 | 4.74 | -0.547 | 1.836 |
| 3 | 0.104 | 4.77 | -0.673 | 2.244 | 4.78 | -0.618 | 2.059 |
| 3 | 0.144 | 4.76 | -0.606 | 2.027 | 4.75 | -0.595 | 1.995 |
| 4 | 0.104 | 4.79 | -0.668 | 2.220 | 4.79 | -0.679 | 2.256 |
| 4 | 0.144 | 4.79 | -0.635 | 2.111 | 4.78 | -0.639 | 2.124 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.76 | -0.438 | 1.464 | 4.76 | -0.458 | 1.531 |
| 1 | 0.144 | 4.76 | -0.421 | 1.408 | 4.76 | -0.431 | 1.442 |
| 2 | 0.104 | 4.76 | -0.548 | 1.829 | 4.76 | -0.533 | 1.782 |
| 2 | 0.144 | 4.76 | -0.534 | 1.784 | 4.75 | -0.517 | 1.732 |
| 3 | 0.104 | 4.75 | -0.502 | 1.679 | 4.76 | -0.541 | 1.809 |
| 3 | 0.144 | 4.75 | -0.488 | 1.633 | 4.75 | -0.495 | 1.661 |
| 4 | 0.104 | 4.78 | -0.570 | 1.896 | 4.77 | -0.602 | 2.008 |
| 4 | 0.144 | 4.78 | -0.550 | 1.832 | 4.77 | -0.574 | 1.914 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.79 | -0.326 | 1.081 | 4.79 | -0.342 | 1.136 |
| 1 | 0.144 | 4.79 | -0.306 | 1.018 | 4.79 | -0.326 | 1.081 |
| 2 | 0.104 | 4.78 | -0.462 | 1.540 | 4.78 | -0.450 | 1.498 |
| 2 | 0.144 | 4.78 | -0.453 | 1.510 | 4.78 | -0.442 | 1.472 |
| 3 | 0.104 | 4.78 | -0.479 | 1.594 | 4.78 | -0.530 | 1.763 |
| 3 | 0.144 | 4.78 | -0.474 | 1.580 | 4.78 | -0.512 | 1.704 |
| 4 | 0.104 | 4.81 | -0.527 | 1.742 | 4.80 | -0.541 | 1.791 |
| 4 | 0.144 | 4.81 | -0.509 | 1.684 | 4.80 | -0.514 | 1.703 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|-----------|----------|----------|------------|----------|---------------|----------------|-------------|
| 14 | 0.3301 | 140.3 | -5.0 | 0.1 | 0.039613 | -0.000694 | -0.00051 |
| 12 | 0.002318 | 425.0 | 7.9 | 2.1 | 0.001831 | -0.000533 | 0.002761 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.74 | -0.432 | 1.452 | 4.74 | -0.480 | 1.614 |
| 1 | 0.144 | 4.73 | -0.415 | 1.395 | 4.73 | -0.456 | 1.534 |
| 2 | 0.104 | 4.71 | -0.575 | 1.944 | 4.70 | -0.575 | 1.945 |
| 2 | 0.144 | 4.71 | -0.563 | 1.902 | 4.70 | -0.548 | 1.855 |
| 3 | 0.104 | 4.71 | -0.542 | 1.831 | 4.71 | -0.666 | 2.251 |
| 3 | 0.144 | 4.70 | -0.494 | 1.672 | 4.70 | -0.619 | 2.096 |
| 4 | 0.104 | 4.74 | -0.736 | 2.470 | 4.74 | -0.774 | 2.600 |
| 4 | 0.144 | 4.74 | -0.706 | 2.370 | 4.73 | -0.738 | 2.482 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.74 | -0.456 | 1.528 | 4.74 | -0.519 | 1.744 |
| 1 | 0.144 | 4.74 | -0.445 | 1.496 | 4.73 | -0.493 | 1.656 |
| 2 | 0.104 | 4.72 | -0.551 | 1.858 | 4.71 | -0.553 | 1.867 |
| 2 | 0.144 | 4.72 | -0.541 | 1.824 | 4.71 | -0.546 | 1.845 |
| 3 | 0.104 | 4.72 | -0.601 | 2.026 | 4.71 | -0.681 | 2.302 |
| 3 | 0.144 | 4.71 | -0.577 | 1.950 | 4.69 | -0.650 | 2.205 |
| 4 | 0.104 | 4.75 | -0.718 | 2.405 | 4.75 | -0.759 | 2.543 |
| 4 | 0.144 | 4.75 | -0.696 | 2.329 | 4.74 | -0.720 | 2.414 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.73 | -0.420 | 1.412 | 4.74 | -0.468 | 1.573 |
| 1 | 0.144 | 4.73 | -0.385 | 1.295 | 4.73 | -0.419 | 1.408 |
| 2 | 0.104 | 4.71 | -0.588 | 1.986 | 4.71 | -0.588 | 1.985 |
| 2 | 0.144 | 4.72 | -0.576 | 1.944 | 4.71 | -0.566 | 1.913 |
| 3 | 0.104 | 4.72 | -0.603 | 2.034 | 4.72 | -0.634 | 2.138 |
| 3 | 0.144 | 4.71 | -0.590 | 1.992 | 4.71 | -0.627 | 2.120 |
| 4 | 0.104 | 4.75 | -0.696 | 2.331 | 4.75 | -0.707 | 2.368 |
| 4 | 0.144 | 4.75 | -0.675 | 2.263 | 4.74 | -0.680 | 2.281 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/S CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|-----------|----------|----------|------------|----------|-----------------|----------------|-------------|
| 14 | 0.3307 | 140.4 | -5.0 | 0.1 | 0.058302 | -0.001071 | -0.000411 |
| 13 | 0.002316 | 424.7 | 9.7 | 3.7 | 0.003731 | -0.000574 | 0.003807 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.67 | -0.471 | 1.606 | 4.67 | -0.573 | 1.954 |
| 1 | 0.144 | 4.66 | -0.442 | 1.507 | 4.67 | -0.531 | 1.811 |
| 2 | 0.104 | 4.61 | -0.516 | 1.780 | 4.61 | -0.550 | 1.898 |
| 2 | 0.144 | 4.60 | -0.494 | 1.707 | 4.60 | -0.543 | 1.879 |
| 3 | 0.104 | 4.60 | -0.496 | 1.717 | 4.62 | -1.102 | 3.791 |
| 3 | 0.144 | 4.59 | -0.449 | 1.558 | 4.59 | -1.003 | 3.475 |
| 4 | 0.104 | 4.65 | -0.940 | 3.220 | 4.67 | -1.054 | 3.592 |
| 4 | 0.144 | 4.65 | -0.933 | 3.192 | 4.66 | -0.994 | 3.393 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.69 | -0.371 | 1.258 | 4.69 | -0.423 | 1.436 |
| 1 | 0.144 | 4.68 | -0.338 | 1.150 | 4.68 | -0.383 | 1.303 |
| 2 | 0.104 | 4.64 | -0.597 | 2.048 | 4.64 | -0.608 | 2.088 |
| 2 | 0.144 | 4.64 | -0.589 | 2.020 | 4.63 | -0.551 | 1.895 |
| 3 | 0.104 | 4.66 | -0.629 | 2.148 | 4.63 | -0.902 | 3.097 |
| 3 | 0.144 | 4.64 | -0.613 | 2.101 | 4.62 | -0.714 | 2.458 |
| 4 | 0.104 | 4.71 | -0.820 | 2.772 | 4.69 | -0.863 | 2.929 |
| 4 | 0.144 | 4.70 | -0.812 | 2.747 | 4.69 | -0.866 | 2.938 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.69 | -0.477 | 1.619 | 4.69 | -0.498 | 1.690 |
| 1 | 0.144 | 4.69 | -0.505 | 1.712 | 4.69 | -0.513 | 1.741 |
| 2 | 0.104 | 4.67 | -0.567 | 1.933 | 4.66 | -0.558 | 1.905 |
| 2 | 0.144 | 4.67 | -0.571 | 1.945 | 4.65 | -0.562 | 1.922 |
| 3 | 0.104 | 4.65 | -0.759 | 2.600 | 4.66 | -0.845 | 2.884 |
| 3 | 0.144 | 4.66 | -0.831 | 2.839 | 4.65 | -0.767 | 2.622 |
| 4 | 0.104 | 4.70 | -0.772 | 2.613 | 4.69 | -0.785 | 2.660 |
| 4 | 0.144 | 4.70 | -0.783 | 2.647 | 4.69 | -0.769 | 2.606 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|-----------|----------|----------|------------|----------|---------------|----------------|-------------|
| 14 | 0.3302 | 140.4 | -5.0 | 0.0 | 0.066738 | -0.001153 | -0.000808 |
| 10 | 0.002322 | 425.2 | 10.6 | 4.6 | 0.004906 | -0.000699 | 0.004454 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.62 | -0.798 | 2.749 | 4.64 | -0.842 | 2.891 |
| 1 | 0.144 | 4.63 | -0.798 | 2.745 | 4.62 | -0.791 | 2.721 |
| 2 | 0.104 | 4.60 | -0.848 | 2.932 | 4.57 | -0.915 | 3.184 |
| 2 | 0.144 | 4.59 | -0.916 | 3.173 | 4.57 | -0.897 | 3.120 |
| 3 | 0.104 | 4.60 | -1.324 | 4.574 | 4.55 | -1.338 | 4.681 |
| 3 | 0.144 | 4.60 | -1.169 | 4.041 | 4.55 | -1.605 | 5.598 |
| 4 | 0.104 | 4.67 | -1.231 | 4.195 | 4.64 | -1.100 | 3.772 |
| 4 | 0.144 | 4.66 | -1.259 | 4.297 | 4.63 | -1.143 | 3.926 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 14 | 0.3302 | 140.4 | -5.0 | 0.0 | 0.066738 | -0.001153 | -0.000808 |
| 10 | 0.002322 | 425.2 | 10.6 | 4.6 | 0.004906 | -0.000699 | 0.004454 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.66 | -0.686 | 2.346 | 4.64 | -0.735 | 2.520 |
| 1 | 0.144 | 4.66 | -0.689 | 2.356 | 4.64 | -0.695 | 2.380 |
| 2 | 0.104 | 4.61 | -0.781 | 2.692 | 4.59 | -0.817 | 2.831 |
| 2 | 0.144 | 4.60 | -0.772 | 2.669 | 4.58 | -0.757 | 2.629 |
| 3 | 0.104 | 4.63 | -1.163 | 3.997 | 4.62 | -1.372 | 4.722 |
| 3 | 0.144 | 4.63 | -1.163 | 3.999 | 4.62 | -1.308 | 4.500 |
| 4 | 0.104 | 4.66 | -0.907 | 3.099 | 4.66 | -1.053 | 3.591 |
| 4 | 0.144 | 4.66 | -0.900 | 3.075 | 4.65 | -0.973 | 3.329 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 14 | 0.3302 | 140.4 | -5.0 | 0.0 | 0.066738 | -0.001153 | -0.000808 |
| 10 | 0.002322 | 425.2 | 10.6 | 4.6 | 0.004906 | -0.000699 | 0.004454 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.68 | -0.736 | 2.502 | 4.67 | -0.822 | 2.798 |
| 1 | 0.144 | 4.67 | -0.741 | 2.526 | 4.67 | -0.824 | 2.809 |
| 2 | 0.104 | 4.61 | -0.780 | 2.691 | 4.61 | -0.983 | 3.393 |
| 2 | 0.144 | 4.60 | -0.685 | 2.370 | 4.60 | -0.804 | 2.782 |
| 3 | 0.104 | 4.67 | -1.104 | 3.760 | 4.61 | -1.606 | 5.536 |
| 3 | 0.144 | 4.66 | -1.042 | 3.554 | 4.65 | -1.229 | 4.198 |
| 4 | 0.104 | 4.66 | -0.967 | 3.300 | 4.65 | -0.958 | 3.274 |
| 4 | 0.144 | 4.66 | -0.962 | 3.286 | 4.65 | -0.968 | 3.310 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|-----------|----------|----------|------------|----------|---------------|----------------|-------------|
| 14 | 0.3304 | 140.3 | -5.0 | 0.1 | 0.068215 | -0.001234 | -0.000044 |
| 14 | 0.002316 | 424.9 | 10.7 | 4.5 | 0.004607 | -0.000523 | 0.004438 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.61 | -0.674 | 2.326 | 4.61 | -0.728 | 2.512 |
| 1 | 0.144 | 4.61 | -0.689 | 2.377 | 4.62 | -0.709 | 2.444 |
| 2 | 0.104 | 4.53 | -0.820 | 2.879 | 4.54 | -0.765 | 2.683 |
| 2 | 0.144 | 4.53 | -0.801 | 2.813 | 4.53 | -0.765 | 2.685 |
| 3 | 0.104 | 4.55 | -0.235 | 0.822 | 4.61 | -1.712 | 5.902 |
| 3 | 0.144 | 4.55 | -0.181 | 0.633 | 4.59 | -1.357 | 4.702 |
| 4 | 0.104 | 4.60 | -1.061 | 3.670 | 4.61 | -1.254 | 4.325 |
| 4 | 0.144 | 4.59 | -0.991 | 3.432 | 4.59 | -1.231 | 4.260 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 14 | 0.3304 | 140.3 | -5.0 | 0.1 | 0.068215 | -0.001234 | -0.000044 |
| 14 | 0.002316 | 424.9 | 10.7 | 4.5 | 0.004607 | -0.000523 | 0.004438 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.61 | -0.715 | 2.467 | 4.61 | -0.934 | 3.223 |
| 1 | 0.144 | 4.61 | -0.729 | 2.518 | 4.60 | -0.768 | 2.658 |
| 2 | 0.104 | 4.53 | -0.837 | 2.941 | 4.53 | -0.879 | 3.088 |
| 2 | 0.144 | 4.52 | -0.820 | 2.884 | 4.52 | -0.835 | 2.940 |
| 3 | 0.104 | 4.54 | -0.586 | 2.057 | 4.53 | -1.491 | 5.232 |
| 3 | 0.144 | 4.54 | -0.414 | 1.452 | 4.49 | -1.485 | 5.259 |
| 4 | 0.104 | 4.58 | -1.178 | 4.087 | 4.58 | -1.443 | 5.002 |
| 4 | 0.144 | 4.57 | -1.138 | 3.957 | 4.57 | -1.341 | 4.668 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 14 | 0.3304 | 140.3 | -5.0 | 0.1 | 0.068215 | -0.001234 | -0.000044 |
| 14 | 0.002316 | 424.9 | 10.7 | 4.5 | 0.004607 | -0.000523 | 0.004438 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.64 | -0.641 | 2.197 | 4.61 | -0.657 | 2.269 |
| 1 | 0.144 | 4.64 | -0.611 | 2.096 | 4.60 | -0.677 | 2.344 |
| 2 | 0.104 | 4.55 | -0.652 | 2.282 | 4.56 | -0.634 | 2.214 |
| 2 | 0.144 | 4.55 | -0.675 | 2.360 | 4.54 | -0.593 | 2.079 |
| 3 | 0.104 | 4.63 | -0.786 | 2.700 | 4.55 | -1.609 | 5.620 |
| 3 | 0.144 | 4.61 | -0.536 | 1.850 | 4.56 | -1.252 | 4.370 |
| 4 | 0.104 | 4.61 | -0.973 | 3.354 | 4.58 | -1.017 | 3.528 |
| 4 | 0.144 | 4.61 | -1.020 | 3.520 | 4.58 | -1.012 | 3.511 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/S CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|-----------|----------|----------|------------|----------|-----------------|----------------|-------------|
| 30 | 0.0481 | 20.5 | -10.0 | -1.9 | 0.068440 | -0.000757 | -0.000058 |
| 15 | 0.002297 | 426.2 | 9.4 | 0.9 | 0.011305 | -0.000638 | 0.004846 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.64 | -0.770 | 2.641 | 4.63 | -0.795 | 2.733 |
| 1 | 0.144 | 4.63 | -0.743 | 2.550 | 4.63 | -0.763 | 2.624 |
| 2 | 0.104 | 4.63 | -0.803 | 2.757 | 4.62 | -0.832 | 2.868 |
| 2 | 0.144 | 4.63 | -0.781 | 2.681 | 4.62 | -0.799 | 2.753 |
| 3 | 0.104 | 4.62 | -0.878 | 3.024 | 4.61 | -0.878 | 3.033 |
| 3 | 0.144 | 4.61 | -0.854 | 2.945 | 4.60 | -0.846 | 2.926 |
| 4 | 0.104 | 4.64 | -0.886 | 3.036 | 4.63 | -0.944 | 3.239 |
| 4 | 0.144 | 4.64 | -0.859 | 2.944 | 4.63 | -0.893 | 3.070 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/S CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 30 | 0.0481 | 20.5 | -10.0 | -1.9 | 0.068440 | -0.000757 | -0.000058 |
| 15 | 0.002297 | 426.2 | 9.4 | 0.9 | 0.011305 | -0.000638 | 0.004846 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.64 | -0.833 | 2.856 | 4.63 | -0.803 | 2.759 |
| 1 | 0.144 | 4.64 | -0.809 | 2.775 | 4.63 | -0.769 | 2.643 |
| 2 | 0.104 | 4.64 | -0.817 | 2.802 | 4.63 | -0.833 | 2.861 |
| 2 | 0.144 | 4.64 | -0.793 | 2.720 | 4.63 | -0.799 | 2.745 |
| 3 | 0.104 | 4.61 | -0.938 | 3.233 | 4.61 | -0.891 | 3.072 |
| 3 | 0.144 | 4.61 | -0.908 | 3.132 | 4.61 | -0.851 | 2.941 |
| 4 | 0.104 | 4.65 | -0.918 | 3.140 | 4.64 | -0.958 | 3.284 |
| 4 | 0.144 | 4.65 | -0.888 | 3.039 | 4.64 | -0.902 | 3.093 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/S CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 30 | 0.0481 | 20.5 | -10.0 | -1.9 | 0.068440 | -0.000757 | -0.000058 |
| 15 | 0.002297 | 426.2 | 9.4 | 0.9 | 0.011305 | -0.000638 | 0.004846 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.64 | -0.787 | 2.698 | 4.63 | -0.855 | 2.936 |
| 1 | 0.144 | 4.64 | -0.758 | 2.601 | 4.63 | -0.795 | 2.736 |
| 2 | 0.104 | 4.63 | -0.798 | 2.745 | 4.61 | -0.814 | 2.806 |
| 2 | 0.144 | 4.63 | -0.774 | 2.662 | 4.61 | -0.785 | 2.708 |
| 3 | 0.104 | 4.63 | -0.870 | 2.992 | 4.61 | -0.932 | 3.215 |
| 3 | 0.144 | 4.62 | -0.842 | 2.900 | 4.60 | -0.887 | 3.068 |
| 4 | 0.104 | 4.64 | -0.932 | 3.196 | 4.63 | -0.935 | 3.215 |
| 4 | 0.144 | 4.64 | -0.900 | 3.086 | 4.62 | -0.890 | 3.062 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|-----------|----------|----------|------------|----------|---------------|----------------|-------------|
| 30 | 0.0696 | 29.6 | -10.0 | -2.1 | 0.067118 | -0.000883 | -0.000065 |
| 19 | 0.002292 | 425.7 | 9.1 | 1.2 | 0.010822 | -0.000882 | 0.004604 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.65 | -0.727 | 2.487 | 4.64 | -0.729 | 2.501 |
| 1 | 0.144 | 4.64 | -0.698 | 2.392 | 4.64 | -0.704 | 2.416 |
| 2 | 0.104 | 4.64 | -0.723 | 2.475 | 4.64 | -0.744 | 2.554 |
| 2 | 0.144 | 4.64 | -0.699 | 2.395 | 4.64 | -0.719 | 2.467 |
| 3 | 0.104 | 4.64 | -0.809 | 2.774 | 4.63 | -0.831 | 2.858 |
| 3 | 0.144 | 4.63 | -0.777 | 2.669 | 4.62 | -0.802 | 2.759 |
| 4 | 0.104 | 4.66 | -0.758 | 2.587 | 4.65 | -0.795 | 2.720 |
| 4 | 0.144 | 4.66 | -0.724 | 2.472 | 4.65 | -0.754 | 2.581 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 30 | 0.0696 | 29.6 | -10.0 | -2.1 | 0.067118 | -0.000883 | -0.000065 |
| 19 | 0.002292 | 425.7 | 9.1 | 1.2 | 0.010822 | -0.000882 | 0.004604 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.66 | -0.729 | 2.493 | 4.65 | -0.758 | 2.598 |
| 1 | 0.144 | 4.65 | -0.703 | 2.403 | 4.64 | -0.715 | 2.450 |
| 2 | 0.104 | 4.64 | -0.762 | 2.610 | 4.63 | -0.745 | 2.560 |
| 2 | 0.144 | 4.64 | -0.738 | 2.532 | 4.63 | -0.715 | 2.458 |
| 3 | 0.104 | 4.64 | -0.836 | 2.866 | 4.63 | -0.876 | 3.009 |
| 3 | 0.144 | 4.64 | -0.804 | 2.758 | 4.63 | -0.827 | 2.842 |
| 4 | 0.104 | 4.66 | -0.834 | 2.850 | 4.64 | -0.827 | 2.833 |
| 4 | 0.144 | 4.65 | -0.799 | 2.731 | 4.64 | -0.782 | 2.678 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 30 | 0.0696 | 29.6 | -10.0 | -2.1 | 0.067118 | -0.000883 | -0.000065 |
| 19 | 0.002292 | 425.7 | 9.1 | 1.2 | 0.010822 | -0.000882 | 0.004604 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.64 | -0.707 | 2.424 | 4.64 | -0.710 | 2.436 |
| 1 | 0.144 | 4.64 | -0.683 | 2.341 | 4.64 | -0.682 | 2.340 |
| 2 | 0.104 | 4.64 | -0.768 | 2.636 | 4.62 | -0.775 | 2.668 |
| 2 | 0.144 | 4.64 | -0.746 | 2.558 | 4.62 | -0.744 | 2.560 |
| 3 | 0.104 | 4.63 | -0.799 | 2.745 | 4.62 | -0.803 | 2.763 |
| 3 | 0.144 | 4.63 | -0.770 | 2.648 | 4.62 | -0.776 | 2.671 |
| 4 | 0.104 | 4.66 | -0.813 | 2.779 | 4.65 | -0.843 | 2.887 |
| 4 | 0.144 | 4.65 | -0.779 | 2.663 | 4.66 | -0.798 | 2.733 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|-----------|----------|----------|------------|----------|---------------|----------------|-------------|
| 30 | 0.1068 | 45.4 | -10.0 | -1.8 | 0.067828 | -0.000690 | -0.000099 |
| 23 | 0.002291 | 424.9 | 9.0 | 1.5 | 0.010825 | -0.000832 | 0.004534 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.63 | -0.673 | 2.310 | 4.63 | -0.654 | 2.247 |
| 1 | 0.144 | 4.63 | -0.644 | 2.213 | 4.63 | -0.617 | 2.123 |
| 2 | 0.104 | 4.64 | -0.688 | 2.358 | 4.63 | -0.724 | 2.488 |
| 2 | 0.144 | 4.64 | -0.665 | 2.282 | 4.63 | -0.696 | 2.392 |
| 3 | 0.104 | 4.62 | -0.740 | 2.550 | 4.61 | -0.744 | 2.567 |
| 3 | 0.144 | 4.62 | -0.721 | 2.484 | 4.61 | -0.713 | 2.461 |
| 4 | 0.104 | 4.66 | -0.740 | 2.529 | 4.64 | -0.791 | 2.712 |
| 4 | 0.144 | 4.65 | -0.711 | 2.430 | 4.64 | -0.750 | 2.572 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.63 | -0.646 | 2.220 | 4.63 | -0.668 | 2.296 |
| 1 | 0.144 | 4.63 | -0.615 | 2.115 | 4.62 | -0.627 | 2.158 |
| 2 | 0.104 | 4.63 | -0.701 | 2.408 | 4.62 | -0.720 | 2.480 |
| 2 | 0.144 | 4.63 | -0.682 | 2.341 | 4.62 | -0.694 | 2.391 |
| 3 | 0.104 | 4.61 | -0.756 | 2.607 | 4.61 | -0.772 | 2.667 |
| 3 | 0.144 | 4.61 | -0.735 | 2.538 | 4.60 | -0.729 | 2.521 |
| 4 | 0.104 | 4.66 | -0.770 | 2.629 | 4.64 | -0.811 | 2.779 |
| 4 | 0.144 | 4.66 | -0.740 | 2.528 | 4.64 | -0.771 | 2.643 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.64 | -0.682 | 2.339 | 4.63 | -0.697 | 2.395 |
| 1 | 0.144 | 4.63 | -0.653 | 2.242 | 4.63 | -0.660 | 2.269 |
| 2 | 0.104 | 4.63 | -0.701 | 2.410 | 4.62 | -0.718 | 2.472 |
| 2 | 0.144 | 4.63 | -0.678 | 2.332 | 4.62 | -0.694 | 2.389 |
| 3 | 0.104 | 4.62 | -0.780 | 2.689 | 4.61 | -0.784 | 2.707 |
| 3 | 0.144 | 4.61 | -0.747 | 2.574 | 4.61 | -0.751 | 2.594 |
| 4 | 0.104 | 4.65 | -0.779 | 2.666 | 4.64 | -0.806 | 2.767 |
| 4 | 0.144 | 4.65 | -0.748 | 2.560 | 4.64 | -0.774 | 2.658 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|-----------|----------|----------|------------|----------|---------------|----------------|-------------|
| 30 | 0.1423 | 60.5 | -10.0 | -1.4 | 0.067695 | -0.000522 | -0.000336 |
| 27 | 0.002286 | 425.7 | 9.2 | 2.0 | 0.010892 | -0.000793 | 0.004728 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.63 | -0.619 | 2.128 | 4.62 | -0.639 | 2.201 |
| 1 | 0.144 | 4.62 | -0.586 | 2.016 | 4.61 | -0.600 | 2.068 |
| 2 | 0.104 | 4.62 | -0.662 | 2.279 | 4.61 | -0.684 | 2.359 |
| 2 | 0.144 | 4.62 | -0.641 | 2.205 | 4.61 | -0.652 | 2.251 |
| 3 | 0.104 | 4.61 | -0.731 | 2.523 | 4.60 | -0.762 | 2.635 |
| 3 | 0.144 | 4.61 | -0.704 | 2.431 | 4.59 | -0.718 | 2.485 |
| 4 | 0.104 | 4.64 | -0.761 | 2.612 | 4.63 | -0.811 | 2.787 |
| 4 | 0.144 | 4.64 | -0.723 | 2.482 | 4.62 | -0.756 | 2.602 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 30 | 0.1423 | 60.5 | -10.0 | -1.4 | 0.067695 | -0.000522 | -0.000336 |
| 27 | 0.002286 | 425.7 | 9.2 | 2.0 | 0.010892 | -0.000793 | 0.004728 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.66 | -0.622 | 2.127 | 4.65 | -0.642 | 2.198 |
| 1 | 0.144 | 4.65 | -0.597 | 2.041 | 4.64 | -0.610 | 2.089 |
| 2 | 0.104 | 4.64 | -0.659 | 2.262 | 4.63 | -0.663 | 2.281 |
| 2 | 0.144 | 4.64 | -0.640 | 2.197 | 4.63 | -0.639 | 2.199 |
| 3 | 0.104 | 4.63 | -0.703 | 2.416 | 4.63 | -0.713 | 2.452 |
| 3 | 0.144 | 4.63 | -0.676 | 2.325 | 4.62 | -0.677 | 2.332 |
| 4 | 0.104 | 4.65 | -0.795 | 2.720 | 4.64 | -0.814 | 2.792 |
| 4 | 0.144 | 4.65 | -0.762 | 2.608 | 4.64 | -0.764 | 2.621 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 30 | 0.1423 | 60.5 | -10.0 | -1.4 | 0.067695 | -0.000522 | -0.000336 |
| 27 | 0.002286 | 425.7 | 9.2 | 2.0 | 0.010892 | -0.000793 | 0.004728 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.65 | -0.634 | 2.172 | 4.64 | -0.667 | 2.286 |
| 1 | 0.144 | 4.64 | -0.603 | 2.065 | 4.64 | -0.617 | 2.117 |
| 2 | 0.104 | 4.64 | -0.652 | 2.237 | 4.63 | -0.658 | 2.260 |
| 2 | 0.144 | 4.64 | -0.630 | 2.163 | 4.63 | -0.628 | 2.159 |
| 3 | 0.104 | 4.63 | -0.772 | 2.651 | 4.62 | -0.796 | 2.742 |
| 3 | 0.144 | 4.63 | -0.740 | 2.544 | 4.61 | -0.745 | 2.571 |
| 4 | 0.104 | 4.66 | -0.735 | 2.509 | 4.65 | -0.764 | 2.613 |
| 4 | 0.144 | 4.66 | -0.705 | 2.409 | 4.65 | -0.721 | 2.469 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|-----------|----------|----------|------------|----------|---------------|----------------|-------------|
| 30 | 0.1766 | 75.1 | -10.0 | -1.0 | 0.067190 | -0.000387 | -0.000108 |
| 28 | 0.002282 | 425.1 | 9.7 | 2.4 | 0.010701 | -0.000915 | 0.005023 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.64 | -0.641 | 2.196 | 4.64 | -0.660 | 2.264 |
| 1 | 0.144 | 4.64 | -0.611 | 2.095 | 4.63 | -0.613 | 2.105 |
| 2 | 0.104 | 4.63 | -0.654 | 2.247 | 4.62 | -0.664 | 2.287 |
| 2 | 0.144 | 4.63 | -0.636 | 2.184 | 4.62 | -0.638 | 2.197 |
| 3 | 0.104 | 4.61 | -0.736 | 2.537 | 4.61 | -0.764 | 2.635 |
| 3 | 0.144 | 4.61 | -0.723 | 2.494 | 4.61 | -0.724 | 2.502 |
| 4 | 0.104 | 4.65 | -0.811 | 2.775 | 4.64 | -0.821 | 2.816 |
| 4 | 0.144 | 4.65 | -0.776 | 2.658 | 4.63 | -0.772 | 2.652 |
| Blade no. | r/R | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 30 | 0.1766 | 75.1 | -10.0 | -1.0 | 0.067190 | -0.000387 | -0.000108 |
| 28 | 0.002282 | 425.1 | 9.7 | 2.4 | 0.010701 | -0.000915 | 0.005023 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.65 | -0.651 | 2.231 | 4.64 | -0.658 | 2.255 |
| 1 | 0.144 | 4.64 | -0.622 | 2.131 | 4.64 | -0.615 | 2.110 |
| 2 | 0.104 | 4.63 | -0.622 | 2.135 | 4.63 | -0.638 | 2.195 |
| 2 | 0.144 | 4.63 | -0.604 | 2.073 | 4.63 | -0.612 | 2.104 |
| 3 | 0.104 | 4.62 | -0.753 | 2.594 | 4.61 | -0.769 | 2.650 |
| 3 | 0.144 | 4.61 | -0.722 | 2.491 | 4.61 | -0.732 | 2.530 |
| 4 | 0.104 | 4.65 | -0.776 | 2.654 | 4.64 | -0.782 | 2.680 |
| 4 | 0.144 | 4.65 | -0.741 | 2.536 | 4.64 | -0.734 | 2.518 |
| Blade no. | r/R | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 30 | 0.1766 | 75.1 | -10.0 | -1.0 | 0.067190 | -0.000387 | -0.000108 |
| 28 | 0.002282 | 425.1 | 9.7 | 2.4 | 0.010701 | -0.000915 | 0.005023 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.63 | -0.615 | 2.113 | 4.63 | -0.614 | 2.109 |
| 1 | 0.144 | 4.63 | -0.585 | 2.011 | 4.63 | -0.579 | 1.991 |
| 2 | 0.104 | 4.63 | -0.638 | 2.191 | 4.62 | -0.668 | 2.299 |
| 2 | 0.144 | 4.63 | -0.626 | 2.152 | 4.62 | -0.643 | 2.216 |
| 3 | 0.104 | 4.61 | -0.711 | 2.453 | 4.61 | -0.721 | 2.489 |
| 3 | 0.144 | 4.61 | -0.689 | 2.378 | 4.60 | -0.691 | 2.387 |
| 4 | 0.104 | 4.65 | -0.746 | 2.551 | 4.64 | -0.783 | 2.686 |
| 4 | 0.144 | 4.65 | -0.710 | 2.432 | 4.64 | -0.733 | 2.516 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/S CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|-----------|----------|----------|------------|----------|-----------------|----------------|-------------|
| 30 | 0.2131 | 90.7 | -10.0 | -0.7 | 0.067764 | -0.000353 | -0.000028 |
| 29 | 0.002276 | 425.8 | 10.4 | 3.1 | 0.010671 | -0.001041 | 0.005462 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.64 | -0.649 | 2.226 | 4.63 | -0.643 | 2.211 |
| 1 | 0.144 | 4.63 | -0.622 | 2.134 | 4.63 | -0.607 | 2.089 |
| 2 | 0.104 | 4.63 | -0.590 | 2.027 | 4.63 | -0.630 | 2.167 |
| 2 | 0.144 | 4.63 | -0.573 | 1.969 | 4.63 | -0.601 | 2.067 |
| 3 | 0.104 | 4.60 | -0.729 | 2.523 | 4.60 | -0.698 | 2.416 |
| 3 | 0.144 | 4.59 | -0.705 | 2.441 | 4.59 | -0.674 | 2.337 |
| 4 | 0.104 | 4.64 | -0.745 | 2.553 | 4.64 | -0.787 | 2.699 |
| 4 | 0.144 | 4.64 | -0.717 | 2.457 | 4.63 | -0.729 | 2.503 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/S CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 30 | 0.2131 | 90.7 | -10.0 | -0.7 | 0.067764 | -0.000353 | -0.000028 |
| 29 | 0.002276 | 425.8 | 10.4 | 3.1 | 0.010671 | -0.001041 | 0.005462 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.63 | -0.642 | 2.208 | 4.62 | -0.653 | 2.248 |
| 1 | 0.144 | 4.63 | -0.617 | 2.124 | 4.62 | -0.614 | 2.117 |
| 2 | 0.104 | 4.62 | -0.641 | 2.206 | 4.62 | -0.672 | 2.315 |
| 2 | 0.144 | 4.62 | -0.620 | 2.134 | 4.61 | -0.639 | 2.205 |
| 3 | 0.104 | 4.60 | -0.689 | 2.384 | 4.60 | -0.702 | 2.430 |
| 3 | 0.144 | 4.60 | -0.665 | 2.301 | 4.59 | -0.664 | 2.300 |
| 4 | 0.104 | 4.64 | -0.782 | 2.685 | 4.63 | -0.818 | 2.814 |
| 4 | 0.144 | 4.63 | -0.748 | 2.568 | 4.62 | -0.761 | 2.619 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/S CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 30 | 0.2131 | 90.7 | -10.0 | -0.7 | 0.067764 | -0.000353 | -0.000028 |
| 29 | 0.002276 | 425.8 | 10.4 | 3.1 | 0.010671 | -0.001041 | 0.005462 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.64 | -0.647 | 2.223 | 4.63 | -0.690 | 2.371 |
| 1 | 0.144 | 4.63 | -0.611 | 2.099 | 4.62 | -0.632 | 2.175 |
| 2 | 0.104 | 4.62 | -0.626 | 2.158 | 4.61 | -0.640 | 2.209 |
| 2 | 0.144 | 4.61 | -0.607 | 2.092 | 4.63 | -0.709 | 2.437 |
| 3 | 0.104 | 4.61 | -0.796 | 2.750 | 4.60 | -0.771 | 2.668 |
| 3 | 0.144 | 4.60 | -0.783 | 2.705 | 4.59 | -0.738 | 2.558 |
| 4 | 0.104 | 4.63 | -0.799 | 2.745 | 4.63 | -0.806 | 2.773 |
| 4 | 0.144 | 4.63 | -0.773 | 2.657 | 4.62 | -0.760 | 2.616 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/S CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|--------------|-------------|-------------|---------------|------------|--------------------|-------------------|----------------|
| 30 | 0.2482 | 105.3 | -10.0 | -0.5 | 0.068593 | -0.000538 | -0.000047 |
| 33 | 0.002267 | 424.5 | 11.2 | 3.8 | 0.010567 | -0.001188 | 0.006240 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.61 | -0.641 | 2.214 | 4.61 | -0.672 | 2.319 |
| 1 | 0.144 | 4.61 | -0.615 | 2.124 | 4.61 | -0.628 | 2.170 |
| 2 | 0.104 | 4.59 | -0.625 | 2.167 | 4.58 | -0.610 | 2.117 |
| 2 | 0.144 | 4.59 | -0.610 | 2.118 | 4.58 | -0.589 | 2.044 |
| 3 | 0.104 | 4.58 | -0.714 | 2.481 | 4.57 | -0.717 | 2.495 |
| 3 | 0.144 | 4.57 | -0.711 | 2.472 | 4.57 | -0.690 | 2.403 |
| 4 | 0.104 | 4.60 | -0.813 | 2.813 | 4.59 | -0.806 | 2.792 |
| 4 | 0.144 | 4.59 | -0.796 | 2.756 | 4.59 | -0.778 | 2.695 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.60 | -0.670 | 2.317 | 4.60 | -0.704 | 2.433 |
| 1 | 0.144 | 4.60 | -0.645 | 2.232 | 4.60 | -0.658 | 2.278 |
| 2 | 0.104 | 4.60 | -0.647 | 2.238 | 4.59 | -0.652 | 2.258 |
| 2 | 0.144 | 4.60 | -0.645 | 2.231 | 4.59 | -0.642 | 2.225 |
| 3 | 0.104 | 4.57 | -0.706 | 2.456 | 4.57 | -0.718 | 2.504 |
| 3 | 0.144 | 4.57 | -0.704 | 2.454 | 4.56 | -0.723 | 2.526 |
| 4 | 0.104 | 4.61 | -0.808 | 2.789 | 4.61 | -0.836 | 2.886 |
| 4 | 0.144 | 4.61 | -0.788 | 2.718 | 4.6 | -0.800 | 2.764 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.61 | -0.701 | 2.421 | 4.61 | -0.686 | 2.371 |
| 1 | 0.144 | 4.60 | -0.668 | 2.308 | 4.60 | -0.643 | 2.224 |
| 2 | 0.104 | 4.59 | -0.681 | 2.360 | 4.59 | -0.650 | 2.255 |
| 2 | 0.144 | 4.59 | -0.661 | 2.292 | 4.58 | -0.624 | 2.166 |
| 3 | 0.104 | 4.58 | -0.792 | 2.751 | 4.57 | -0.784 | 2.728 |
| 3 | 0.144 | 4.58 | -0.762 | 2.647 | 4.56 | -0.708 | 2.472 |
| 4 | 0.104 | 4.61 | -0.898 | 3.100 | 4.60 | -0.847 | 2.930 |
| 4 | 0.144 | 4.61 | -0.868 | 2.996 | 4.60 | -0.808 | 2.796 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|-----------|----------|----------|------------|----------|---------------|----------------|-------------|
| 30 | 0.283 | 120.4 | -10.0 | -0.3 | 0.068685 | -0.000607 | 0.000351 |
| 37 | 0.002256 | 425.6 | 11.9 | 4.3 | 0.010027 | -0.001403 | 0.006767 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.59 | -0.659 | 2.287 | 4.59 | -0.771 | 2.671 |
| 1 | 0.144 | 4.58 | -0.634 | 2.201 | 4.59 | -0.730 | 2.532 |
| 2 | 0.104 | 4.55 | -0.617 | 2.160 | 4.55 | -0.654 | 2.287 |
| 2 | 0.144 | 4.55 | -0.601 | 2.103 | 4.55 | -0.619 | 2.164 |
| 3 | 0.104 | 4.54 | -0.716 | 2.509 | 4.55 | -0.855 | 2.994 |
| 3 | 0.144 | 4.54 | -0.728 | 2.549 | 4.55 | -0.777 | 2.716 |
| 4 | 0.104 | 4.55 | -0.800 | 2.796 | 4.56 | -0.836 | 2.914 |
| 4 | 0.144 | 4.55 | -0.795 | 2.778 | 4.57 | -0.823 | 2.868 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 30 | 0.283 | 120.4 | -10.0 | -0.3 | 0.068685 | -0.000607 | 0.000351 |
| 37 | 0.002256 | 425.6 | 11.9 | 4.3 | 0.010027 | -0.001403 | 0.006767 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.60 | -0.530 | 1.830 | 4.60 | -0.596 | 2.061 |
| 1 | 0.144 | 4.60 | -0.507 | 1.753 | 4.59 | -0.557 | 1.930 |
| 2 | 0.104 | 4.60 | -0.569 | 1.969 | 4.58 | -0.587 | 2.039 |
| 2 | 0.144 | 4.60 | -0.558 | 1.931 | 4.58 | -0.561 | 1.950 |
| 3 | 0.104 | 4.57 | -0.589 | 2.048 | 4.57 | -0.643 | 2.240 |
| 3 | 0.144 | 4.57 | -0.570 | 1.987 | 4.56 | -0.643 | 2.241 |
| 4 | 0.104 | 4.60 | -0.750 | 2.593 | 4.59 | -0.810 | 2.809 |
| 4 | 0.144 | 4.60 | -0.727 | 2.517 | 4.58 | -0.779 | 2.705 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 30 | 0.283 | 120.4 | -10.0 | -0.3 | 0.068685 | -0.000607 | 0.000351 |
| 37 | 0.002256 | 425.6 | 11.9 | 4.3 | 0.010027 | -0.001403 | 0.006767 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.60 | -0.745 | 2.578 | 4.59 | -0.692 | 2.402 |
| 1 | 0.144 | 4.59 | -0.714 | 2.474 | 4.58 | -0.660 | 2.290 |
| 2 | 0.104 | 4.55 | -0.633 | 2.213 | 4.56 | -0.570 | 1.988 |
| 2 | 0.144 | 4.55 | -0.614 | 2.145 | 4.55 | -0.553 | 1.931 |
| 3 | 0.104 | 4.54 | -0.714 | 2.503 | 4.55 | -0.809 | 2.826 |
| 3 | 0.144 | 4.54 | -0.684 | 2.397 | 4.54 | -0.715 | 2.509 |
| 4 | 0.104 | 4.56 | -0.922 | 3.215 | 4.56 | -0.871 | 3.036 |
| 4 | 0.144 | 4.56 | -0.892 | 3.113 | 4.56 | -0.835 | 2.911 |

| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/S CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
|--------------|-------------|-------------|---------------|------------|--------------------|-------------------|----------------|
| 30 | 0.3313 | 140.5 | -10.0 | 0.1 | 0.065764 | -0.000553 | -0.000725 |
| 38 | 0.002239 | 424.3 | 13.2 | 5.5 | 0.009607 | -0.001410 | 0.007627 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.57 | -0.824 | 2.867 | 4.56 | -0.750 | 2.615 |
| 1 | 0.144 | 4.56 | -0.824 | 2.874 | 4.55 | -0.771 | 2.692 |
| 2 | 0.104 | 4.49 | -0.739 | 2.616 | 4.51 | -0.651 | 2.297 |
| 2 | 0.144 | 4.49 | -0.726 | 2.571 | 4.49 | -0.640 | 2.265 |
| 3 | 0.104 | 4.49 | -1.151 | 4.072 | 4.52 | -1.545 | 5.438 |
| 3 | 0.144 | 4.50 | -1.234 | 4.354 | 4.50 | -1.323 | 4.675 |
| 4 | 0.104 | 4.53 | -1.209 | 4.245 | 4.53 | -1.148 | 4.032 |
| 4 | 0.144 | 4.53 | -1.240 | 4.353 | 4.53 | -1.127 | 3.961 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/S CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 30 | 0.3313 | 140.5 | -10.0 | 0.1 | 0.065764 | -0.000553 | -0.000725 |
| 38 | 0.002239 | 424.3 | 13.2 | 5.5 | 0.009607 | -0.001410 | 0.007627 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.53 | -0.863 | 3.032 | 4.54 | -0.882 | 3.089 |
| 1 | 0.144 | 4.52 | -0.880 | 3.095 | 4.54 | -0.824 | 2.887 |
| 2 | 0.104 | 4.47 | -0.704 | 2.510 | 4.48 | -0.691 | 2.452 |
| 2 | 0.144 | 4.46 | -0.710 | 2.532 | 4.47 | -0.643 | 2.287 |
| 3 | 0.104 | 4.43 | -1.098 | 3.937 | 4.45 | -1.083 | 3.870 |
| 3 | 0.144 | 4.42 | -1.038 | 3.734 | 4.46 | -1.007 | 3.590 |
| 4 | 0.104 | 4.46 | -1.156 | 4.123 | 4.50 | -1.011 | 3.577 |
| 4 | 0.144 | 4.45 | -1.147 | 4.095 | 4.50 | -1.027 | 3.630 |
| RUN POINT | V/OR RHO | VKTS RPM | ALPHA COLL | A1S B1S | CLRHS/S CXRHS/S | CYRH/S CMXHS/S | CMYH/S CP/S |
| 30 | 0.3313 | 140.5 | -10.0 | 0.1 | 0.065764 | -0.000553 | -0.000725 |
| 38 | 0.002239 | 424.3 | 13.2 | 5.5 | 0.009607 | -0.001410 | 0.007627 |
| Blade no. | r/R | MB freq. | MB sigma | MB damp. | TA freq. | TA sigma | TA damp. |
| 1 | 0.104 | 4.56 | -0.806 | 2.812 | 4.57 | -0.757 | 2.637 |
| 1 | 0.144 | 4.55 | -0.787 | 2.749 | 4.56 | -0.727 | 2.538 |
| 2 | 0.104 | 4.51 | -0.671 | 2.366 | 4.53 | -0.688 | 2.416 |
| 2 | 0.144 | 4.51 | -0.660 | 2.327 | 4.51 | -0.617 | 2.178 |
| 3 | 0.104 | 4.52 | -1.051 | 3.697 | 4.53 | -1.315 | 4.612 |
| 3 | 0.144 | 4.51 | -1.021 | 3.596 | 4.50 | -1.071 | 3.789 |
| 4 | 0.104 | 4.53 | -1.101 | 3.866 | 4.54 | -0.977 | 3.424 |
| 4 | 0.144 | 4.53 | -1.115 | 3.917 | 4.53 | -0.938 | 3.293 |

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| 13. ABSTRACT (<i>Maximum 200 words</i>) A full-scale BO-105 hingeless rotor system was tested in the Ames 40- by 80-Foot Wind Tunnel on the rotor test apparatus. Rotor performance, blade and rotor hub loads, and aeroelastic stability as functions of rotor lift, tunnel velocity, and shaft angle were investigated. The primary objective of this test program was to create a data base for full-scale hingeless rotor performance, structural blade loads, and aeroelastic stability. A secondary objective was to investigate the ability to match flight test conditions in the wind tunnel. This data base can be used for the experimental and analytical studies of hingeless rotor systems over large variations in rotor thrust and tunnel velocity. Aeroelastic stability data and the corresponding rotor performance data and test conditions for tunnel velocities from hover to 140 knots and thrust coefficients (C_T/σ) from 0.0 to 0.10 are presented in this report. The rotor was found to be stable at all conditions tested. | | | | | | | |
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